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Search Report
EIC 3700

STIC Database Tracking Number: 233722

To: BENJAMIN LEE
Location: RND-6B71
Art Unit: 3714
Friday, August 10, 2007

Case Serial Number: 10/758828

From: EMORY DAMRON
Location: EIC3700
RND-8B31 / RND-8B21
Phone: (571)272-3520

emory.damron@uspto.gov

Search Notes

Benjamin-

Please find below your search results.

References of potential pertinence have been tagged, but please review all the packets in case you like something I didn't.

Of those references which have been tagged, please note any manual highlighting which I've done within the document.

There may be a few decent references contained herein, but I'll let you determine how useful they may be to you.

Please contact me if I can refocus or expand any aspect of this case, and please take a moment to provide any feedback (on the form provided) so EIC 3700 may better serve your needs.
Good Luck!
Sincerely,
Emory Damron
Technical Information Specialist
EIC 3700, US Patent & Trademark Office
Phone: (571) 272-3520
Emory.damron@uspto.gov

sira
Search and Information Resources Administration

Access DB# _____

Scientific and Technical Information Center

Requester's Full Name: BENJAMIN LEE Examiner #: 82635 Date: 8/8/07
Art Unit: 3714 Phone Number 30 571-270-1346 Serial Number: 10/758,828
Mail Box and Bldg/Room Location: RND 6A11 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.
****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: FRAME CAPTURE OF ACTUAL GAME PLAY

Inventors (please provide full names): STEVEN LEMAY AND WAYNE NELSON

Earliest Priority Filing Date: 10/11/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

I'm specifically looking for a reference that says that a screenshot (or screen dump or screen capture) is captured directly from the frame buffer (or video memory). Preferably, I'd like a reference that relates to computer displays or gaming.

Cell Phone (Not in Office 8/9 - 8/10)

516-784-6396

XCOPY

****

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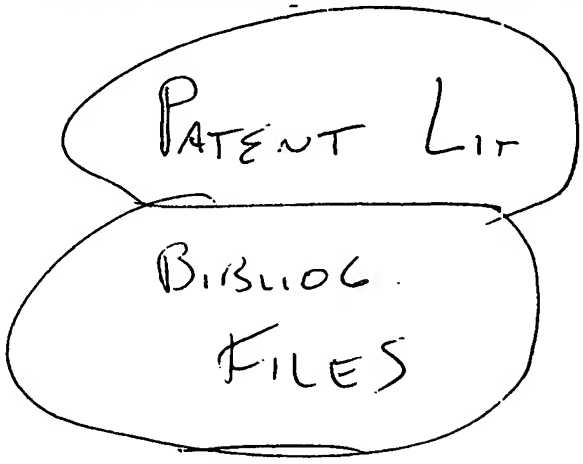
Set     Items    Postings    Description
S1       7576       32811    S SCREENSHOT? OR SCREEN()(SHOT? OR DUMP? OR IMAGE?) OR
SCREENDUMP? OR STILLSCREEN?
S2      18571      118393    S SCREENIMAG? OR STILL()(SCREEN? OR PIC OR SHOT? OR PICS OR
PICTUR?) OR STILLSHOT? OR STILL()SHOT? OR SNAGIT OR SNAG()IT
S3       1927       18778    S FREEZE()FRAME? OR FREEZEFRAME? OR SNAPSHOT? OR SNAP()SHOT?
S4      28041      207403    S (VIDEO OR INTERNET OR ONLINE OR ELECTRONIC OR ETHERNET OR
COMPUTER?)(2N)(GAME? OR GAMING OR TOURNAMENT? OR COMPETITION?) OR VIDEOGAM? OR
COMPUTERGAM?
S5         654        2691    S (EXTRANET? OR LAN OR LANS OR WAN OR WANS OR VPN OR WEB OR
CYBER)(2N)(GAME? OR GAMING OR TOURNAMENT? OR COMPETITION?) OR ONLINEGAM?
S6          13          66    S ELECTRONICGAME? OR CYBERGAME? OR ONLINEGAME? OR
MMOG?(5N)(MULTIMEDIA? OR MULTI()MEDIA OR ONLINE OR GAME? OR GAMING)
S7         309        5018    S S1:S3 AND S4:S6
S8          90         851    S CAPTUR? OR RECORD? OR ARCHIV? OR LOG OR LOGS OR LOGGING OR
LOGGED
S9         179        2295    S MEMOR? OR BUFFER? OR CACHE? OR CACHING OR STORAG? OR STORE?
OR STORING? OR RAM OR ROM
S10         22          72    S COPY? OR SAVE? OR SAVING OR DIARY OR DIARIES? OR COMPENDI? OR
HISTOR?
S11        254         787    S IC=(G07F? OR A63F? OR G06F? OR H04N?)
S12        284         983    S MC=(T01? OR T04? OR T05? OR W04?)
S13        203        6481    S S7 AND S8:S10
S14        198        7552    S S13 AND S11:S12
S15        309       16458    S S7:S14
S16        133        9657    S S15 AND AY=19700:20000
S17        105        5817    S S15 NOT AY=20001:20007
S18        142       12973    S S16:S17
S19        142       12413    IDPAT (sorted in duplicate/non-duplicate order)
S20        141       12386    IDPAT (primary/non-duplicate records only)
 ; show files
```

[File 347] **JAPIO** Dec 1976-2007/Feb(Updated 070806)

[File 350] **Derwent WPIX** 1963-2007/UD=200749

**File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit http://www.dialog.com/dwpi/.*



20/5,K/1 (Item 1 from file: 350) **Links**
Derwent WPIX

0015626652 *Drawing available*
WPI Acc no: 2006-190829/200620
Related WPI Acc No: 2002-011447; 2002-489080; 2005-551026
XRPX Acc No: N2006-164194
Hyperlink enhancement method in e.g. computer, involves displaying graphical toolbar providing user-selectable link enhancements e.g. enhancement to display link snapshot based on hyperlink
Patent Assignee: HANNA P (HANN-I); MANSFIELD S (MANS-I)
Inventor: HANNA P; MANSFIELD S

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050259120	A1	20051124	US 2000202029	P	20000504	200620	B
			US 2000594786	A	20000616		
			US 2001847999	A	20010504		
			US 200540390	A	20050121		

Priority Applications (no., kind, date): US 2000202029 P 20000504; US 2000594786 A 20000616; US 2001847999 A 20010504; US 200540390 A 20050121

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20050259120	A1	EN	22	14	Related to Provisional	US 2000202029
					Continuation of application	US 2000594786
					Continuation of application	US 2001847999
					Continuation of patent	US 6925496

Alerting Abstract US A1
NOVELTY - A hyperlink associated with a URL and page is displayed on a window. A graphical toolbar providing user-selectable link enhancements e.g. enhancement to display link **snapshot** based on hyperlink and displaying skins, is displayed. A link **snapshot** associated with URL and causing page to be displayed when the **snapshot** is selected by user, is displayed when user selects an enhancement.
USE - For enhancing hyperlink in hypertext, used for navigating hypermedia comprising text, video, graphic images, sound, hyperlinks and other elements in form typical of web documents and interactive software, media, **games**, **web** page, **electronic** document, file and screen display using computer e.g. personal computer (PC) and server.
ADVANTAGE - The function set of hyperlinks is increased thus enabling user to perform operations using single click.
DESCRIPTION OF DRAWINGS - The figure shows a flow chart explaining hyperlink enhancement process.

Title Terms /Index Terms/Additional Words: ENHANCE; METHOD; COMPUTER; DISPLAY; GRAPHICAL; USER; SELECT; LINK; **SNAPSHOT**; BASED

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G09G-0005/00	A	I		R	20060101
G09G-0005/00	C	I		R	20060101

US Classification, Issued: 345661000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): **T01-J11C1**; **T01-N03B2**

Hyperlink enhancement method in e.g. computer, involves displaying graphical toolbar providing user-selectable link enhancements e.g. enhancement to display link snapshot based on hyperlink Alerting Abstract ...associated with a URL and page is displayed on a window. A graphical toolbar providing user-selectable link enhancements e.g. enhancement to display link **snapshot** based on hyperlink and displaying skins, is displayed. A link **snapshot** associated with URL and causing page to be displayed when the **snapshot** is selected by user, is displayed when user selects an enhancement. ...hypertext, used for navigating hypermedia comprising text, video, graphic images, sound, hyperlinks and other elements in form typical of web documents and interactive software, media, **games**, **web** page, **electronic** document, file and screen display using computer e.g. personal computer (PC) and server... **Title Terms** .../Index Terms/Additional Words: **SNAPSHOT**; **Class Codes** Manual Codes (EPI/S-X): **T01-J11C1**... ...**T01-N03B2** Original Publication Data by Authority...**Claims:**provide a plurality of user-selectable link enhancements, said plurality of user-selectable link enhancements comprising a user-selectable link enhancement to display a link **snapshot** based on said hyperlink;receiving a first user selection of said link enhancement; andas a result of said first user selection,**capturing** a displayable element and said URL associated with said hyperlink; anddisplaying a link **snapshot**, wherein said link **snapshot** comprises said **captured** displayable element, and is associated with said **captured** URL, and wherein said link **snapshot** is adapted to cause said page to be displayed as a result of a second user selection of said link **snapshot**, said page to be displayed based on said **captured** URL,wherein the graphical toolbar is adapted to display one or more skins.... Basic Derwent Week: 200620...

[0062] Other Enhancements

[0063] This invention provides a platform for many enhancements to the current hyperlink. Several potential enhancements are outlined below. It is expected that these and other hyperlink enhancements could be programmed by a programmer of ordinary skill in the art given this disclosure.

[0064] "E-mail more information". This feature, would prompt for e-mail address and allow advertisers to send more information to users who express interest in this way. This way a user can gather more information without necessarily having to follow the link.

[0065] "Statistical Information". This feature, would allow advertisers to track statistics related to how, how much, when and under what circumstances their advertisements were being utilized.

[0066] "Sweepstakes Information". This feature would allow advertisers to add "sweepstake" entry information to the "toolbar" enabling users to enter the sweepstakes without losing their train of thought.

[0067] FIG. 8 illustrates additional exemplary user selectable options of the present invention. In order to implement the exemplary enhanced features, the "Check it Later" (my list) window may be formatted as an HTML form where the "Check it Later" item(s) are placed on that form as HTML CheckBox items. This provides an interface for the user to be able to select one or all of the items for further processing. FIGS. 10A and 10B illustrate a "my list" window 800 that has the features of the "Check it Later" window. These two terms can be considered interchangeable. The current options for further processing are described below.

[0068] E-mail Links:

[0069] This Submit button the form calls a custom Java Server Page program which compiles all selected items into the text portion of an e-mail message. The user is presented with a browser window containing another form with fields for entering their e-mail address, the address of the recipient, the subject of the e-mail and any additional message they might want to add. A "Send" button on the page submits this form to another Java Server Page program which sends the message via SMTP.

[0070] Deleting Links:

[0071] JavaScript subroutines are added to the "Click it Later" window when it is created which utilize DHTML to remove checked items when the user clicks on the "Delete" button.

[0072] Make Links into Internet Explorer Favorites:

[0073] JavaScript subroutines are added to the "Click it Later" window when it is created. When the user clicks on the "Make Favorites" button these programs utilize DHTML to retrieve the content of checked items and call the "AddFavorite" Windows API routine to allow the user to add each item to their Internet Explorer favorites.

[0074] FIG. 9 illustrates another embodiment of the current invention. This embodiment adds the ability to change the skin or background image for the menu that allows the user to access the multifunction hyperlink features. The addition is represented by block 900. In block 900 the program could use and/or inset a default skin, a user selected skin, or an advertising/banner skin. The default skin could be any skin selected or created by the programmer. An exemplary skin 710, 712 for the large and small menus respectively are shown in FIG. 11A.

[0075] The user may select a skin through any number of graphic user interfaces created by the programmer. An exemplary interface 702 is illustrated in FIGS. 11A and 11B. The interface shown is accessed by selecting hyperlink 700 shown on FIG. 10A. Other methods of providing the user access to an interface are well known in the art. Interface 702 provides the user the ability to select a skin from a group of skins provided by the programmer. Examples of large menu skins 720, 730, 740, and 750 are provided in FIG. 11A. Similarly, examples of small menu skins 722, 732, 742, and 752 are also provided in FIG. 11A. Alternatively, the user may select their own skin or image for both large and small menus using text boxes 760 and 762 respectively.

[0076] When the embodiment shown in FIG. 9 is used in conjunction with a search engine to search a web site or the Internet, the site owner or an advertiser may desire to inset a skin related to the search term entered. For example, if a user searching the Internet used the search term "realtor", then a skin (banner advertisement)) for a particular realty office or related web site could be displayed. If the user were searching a specific site, for example a camera manufacturer, and used the search term "SLR", then the skin could display an image of a single lens reflex camera manufactured/sold by the camera manufacturer. Additionally, the skin could change after a pre-selected time period so that the manufacturer could display their entire SLR product line to the user as they reviewed the search results. Furthermore, the skin could change to reflect the product referenced by or related to the link that the user's pointer was over. For example, if the search results displayed links to product pages, product reviews, and/or press releases, then an image of the associated product could be displayed as the skin by correlating the product image/skin with the link using a database. The display of an image related to the link could allow the user to quickly determine which links had the most interest.

[0077] In summary, numerous benefits have been described with results from implying the concepts of the invention. The foregoing description of the exemplary embodiments of the invention has been prepared for the purposes of illustration and description. It is not intended to be exhausted or to limit the invention to the precise form disclosed. Obvious modifications and variations are possible in light of the above teaching. The embodiment was chosen and described in order to best illustrate the principals of its invention in its practical application to thereby enable one of ordinary skill to best utilize the invention of various embodiments and with various modifications as they are suited to the particular to which is contemplated. It is intended that the scope of the invention be defined by the claims appended hereto.

What is claimed:

1. A method for enhancing a hyperlink, comprising:

displaying a hyperlink in a first window of an application, wherein said hyperlink is associated with a uniform resource locator (URL) and a page;

detecting a cursor in proximity to said hyperlink;

displaying a graphical toolbar in proximity to said cursor while said cursor is in proximity to said hyperlink, wherein said graphical toolbar is adapted to provide a plurality of user-selectable link enhancements, said plurality of user-selectable link enhancements comprising a user-selectable link enhancement to display a link snapshot based on said hyperlink;

receiving a first user selection of said link enhancement; and

as a result of said first user selection,

capturing a displayable element and said URL associated with said hyperlink; and

displaying a link snapshot, wherein said link snapshot comprises said captured displayable element, and is associated with said captured URL, and wherein said link snapshot is adapted to cause said page to be displayed as a result of a second user selection of said link snapshot, said page to be displayed based on said captured URL,

wherein the graphical toolbar is adapted to display one or more skins.

2. The method of claim 1, wherein capturing said displayable element further comprises:

reducing the size of said captured displayable element.

3. The method of claim 1, wherein said link snapshot is displayed at an edge of a display displaying said first window.

4. The method of claim 1, further comprising:

displaying said page in a second window upon said second user selection of said link snapshot.

5. The method of claim 1, further comprising:

retaining said link snapshot when said first window is closed.

6. The method of claim 1, wherein said capturing and said displaying said link snapshot are performed by a second application.

7. The method of claim 1, wherein said displayable element comprises a graphic element.

8. The method of claim 1, wherein said displayable element comprises a text element.

9. The method of claim 1, wherein at least one of the one or more skins corresponds to the hyperlink.

10. The method of claim 1, wherein at least one of the one or more skins corresponds to the first page.

11. A method for enhancing a hyperlink, comprising:

displaying a first page having a hyperlink in a first window of an application, wherein said first page is associated with a first uniform resource locator (URL), wherein said hyperlink is associated with a second URL and a second page;

detecting a cursor in proximity to said hyperlink;

displaying a graphical toolbar in proximity to said cursor while said cursor is in proximity to said hyperlink, wherein said graphical toolbar is adapted to provide a plurality of user-selectable link enhancements, said plurality of user-selectable link enhancements comprising a user-selectable link enhancement to display an icon based on said first URL;

receiving a first user selection of said link enhancement; and

as a result of said first user selection,

capturing said first URL associated with said first page;

displaying an icon, said icon associated with said captured first URL, said icon adapted to cause said first page to be displayed as a result of a second user selection of said icon; and

displaying said second page in said first window,

wherein the graphical toolbar is adapted to display one or more skins.

12. The method of claim 11, wherein said icon is displayed at an edge of a display displaying said first window.

13. The method of claim 11, wherein said icon is displayed as a button in said graphical toolbar.

14. The method of claim 11, wherein said capturing and said displaying said icon are performed by a second application.

15. The method of claim 11, wherein at least one of the one or more skins corresponds to the hyperlink.

16. The method of claim 11, wherein at least one of the one or more skins corresponds to the first page.

17. A method for enhancing a hyperlink, comprising:

displaying a first page having a hyperlink in a first window of an application, wherein said first page is associated with a first uniform resource locator (URL), wherein said hyperlink is associated with a second URL and a second page;

detecting a cursor in proximity to said hyperlink;

displaying a graphical toolbar in proximity to said cursor while said cursor is in proximity to said hyperlink, wherein said graphical toolbar is adapted to provide at least one user-selectable link enhancement selected from a user-selectable link enhancement to display a link snapshot based on said hyperlink, a user-selectable link enhancement to display an icon based on said first URL, a user-selectable link enhancement to store a copy of said second page, and a user-selectable link enhancement to display said second page in a second window; and

receiving a first user selection of one of said user-selectable link enhancements,

wherein the graphical toolbar is adapted t display one or more skins.

18. The method of claim 17, wherein at least one of the one or more skins corresponds to the hyperlink.

19. The method of claim 17, wherein at least one of the one or more skins corresponds to the first page.

* * * * *

20/5,K/17 (Item 17 from file: 350) **Links**
Derwent WPIX

0012415870 Drawing available
WPI Acc no: 2002-360227/200239
XRPX Acc No: N2002-281357
Video game system has processor which authorizes game execution based on user's age and game performance data received from controller
Patent Assignee: SLIFER R D (SLIF-I)
Inventor: SLIFER R D

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6342010	B1	20020129	US 1997970258	A	19971114	200239	B

Priority Applications (no., kind, date): US 1997970258 A 19971114

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 6342010	B1	EN	8	4	

Alerting Abstract US B1
NOVELTY - A portable controller (126) has several control switches (152) and a non-volatile **memory** to **store** the user identification data including user's age and game performance data. A wireless transmitter transmits the **stored** information to a processor which authorizes the game execution based on the user's age and game performance data.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

A. Personalized portable **video game** controller;
B. Interactive **video system** operation method

USE - Interactive **video game** system capable of adjusting **game** operation **corresponding to** user's ability.
ADVANTAGE - By the provision of wireless transmitter, **video games** are played on large screens without **the requirement** of control cables. By the inclusion of user's age in user identification information, game designed for any other specific age group is not operated by unauthorized user.
DESCRIPTION OF DRAWINGS - The figure shows the wireless **video game** controller.
126 Portable controller
152 Control switches

Title Terms /Index Terms/Additional Words: VIDEO; GAME; SYSTEM; PROCESSOR; AUTHORISE; EXECUTE; BASED; USER; AGE; PERFORMANCE; DATA; RECEIVE; CONTROL

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-013/02			Main		"Version 7"
A63F-013/10			Secondary		"Version 7

US Classification, Issued: 463039000, 434351000, 463029000

File Segment: EngPI; EPI;
DWPI Class: W04; P36
Manual Codes (EPI/S-X): **W04-X02C**

Video game system has processor which authorizes game execution based on user's age and game performance data received from controller Original Titles: Personalized wireless **video game** system. **Alerting Abstract** ...NOVELTY - A portable controller (126) has several control switches (152) and a non-volatile **memory** to **store** the user identification data including user's age and game performance data. A wireless transmitter transmits the **stored** information to a processor which authorizes the game execution based on the user's age and game performance data. ... Personalized portable **video game** controller; Interactive **video system** operation method... ... USE - Interactive **video game** system capable of adjusting **game** operation **corresponding to** user's ability... ... ADVANTAGE - By the provision of wireless transmitter, **video games** are played on large screens without **the requirement** of control cables. By the inclusion of user's age in user identification information, game designed for any other specific age group is not operated... ... DESCRIPTION OF DRAWINGS - The figure shows the wireless **video game** controller.**Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-013/02** Main **A63F-013/10** Manual Codes (EPI/S-X): **W04-X02C** Original Publication Data by Authority**Original Abstracts:**A **video game** system is described which includes a wireless game controller which **stores** information about the user of the controller. The controller includes a **memory** for **storing** the information. The information is communicated through wireless transmissions to a processor which can operate a **video game**. The personalized information can include, for example, the userprime s name, skill level, preferred characters, handicaps, limitations, and/or **historical** game scores. The game controllers can include a wireless receiver for receiving communications from the processor to update information **stored** in the controller. Several different communication operations and protocols are described, including **storing** a user identification code in the controller with corresponding detailed information **stored** in the processor, or **storing** detailed information in the hand held controller and down loading the information to the processor. **Claims:**A **video game system comprising**:a processor unit for executing game instructions and displaying **video** images on a delay **screen**, the processor includes a receiver for receiving wireless identification and control signal transmissions; anda personalized portable control comprising:a plurality of control switches for generating game control signals;a non-volatile **memory** for **storing** personalized identification information corresponding to a user **of** the **controller**, the personalized identification information comprises a user age, and **historical** game performance data; anda transmitter for wireless transmitting **of** the personalized identification and game control signals to the processor unit, wherein the processor unit authorizes game execution based on the user age, further the processor unit comprises a transmitting for transmitting the **historical** game performance data to the portable controller.Basic Derwent Week: 200239

US006342010B1

(12) **United States Patent**
Slifer

(10) **Patent No.: US 6,342,010 B1**
(45) **Date of Patent: Jan. 29, 2002**

(54) **PERSONALIZED WIRELESS VIDEO GAME SYSTEM**

(76) Inventor: Russell Dale Slifer, 5324 Drew Ave. S., Minneapolis, MN (US) 55410

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 08/970,258

(22) Filed: Nov. 14, 1997

(51) Int. Cl.[7] A63F 13/02; A63F 13/10

(52) U.S. Cl. 463/39; 434/351; 463/29

(58) Field of Search ..... 463/39, 29, 40, 463/41, 42, 43, 44, 35, 36, 37, 38; 341/20; 345/168, 172, 156; 434/322, 325, 351; 380/7; 320/107; 273/148 B

(56) **References Cited**

U.S. PATENT DOCUMENTS

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5,618,045	A *	4/1997	Kagan et al.	463/40
5,634,849	A *	6/1997	Abecassis	463/30
5,738,583	A *	4/1998	Comas et al.	463/40
5,759,100	A *	6/1998	Nakanishi	463/37
5,806,849	A *	9/1998	Rutkowski	463/38
5,823,788	A *	10/1998	Lemelson et al.	434/351
5,838,138	A *	11/1998	Henty	320/107
5,860,023	A *	1/1999	Tognazzini	434/351

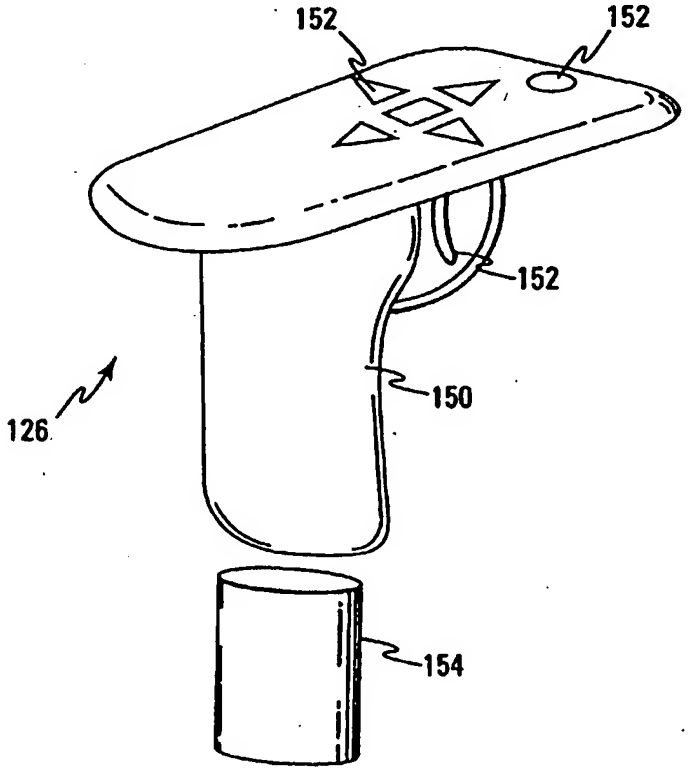
* cited by examiner

Primary Examiner—Jessica J. Harrison
(74) Attorney, Agent, or Firm—Fogg, Slifer & Polglaze, P.A.

(57) **ABSTRACT**

A video game system is described which includes a wireless game controller which stores information about the user of the controller. The controller includes a memory for storing the information. The information is communicated through wireless transmissions to a processor which can operate a video game. The personalized information can include, for example, the user's name, skill level, preferred characters, handicaps, limitations, and/or historical game scores. The game controllers can include a wireless receiver for receiving communications from the processor to update information stored in the controller. Several different communication operations and protocols are described, including storing a user identification code in the controller with corresponding detailed information stored in the processor, or storing detailed information in the hand held controller and down loading the information to the processor.

19 Claims, 3 Drawing Sheets



controller data with the CPU. The wireless controller can also include a battery saver circuit 156 which turns internal circuitry off, such as the transmitter, when a predetermined time elapses between activation of any of the control switches. This circuitry reduces power consumption, thereby, extending time between battery replacement or recharge.

Conclusion

A video game system has been described which includes a wireless game controller which stores information about the user of the controller. The controller includes a memory for storing the information. The information is then communicated through wireless transmissions to a processor operating the video game. The information can include, for example, the user's name, skill level, preferred characters, handicaps, limitations, and/or historical game scores. The game controllers can include a wireless receiver for receiving communications from the game processor to update information stored in the controller. Several different communication operations and protocols have been described, including storing a user identification code in the controller with corresponding detailed information stored in the game processor, or storing detailed information in the hand held controller and down loading the information to the game processor.

Although specific embodiments have been illustrated and described herein, it will be appreciated by those of ordinary skill in the art that any arrangement which is calculated to achieve the same purpose may be substituted for the specific embodiment shown. This application is intended to cover any adaptations or variations of the present invention. Therefore, it is manifestly intended that this invention be limited only by the claims and the equivalents thereof.

What is claimed is:

1. A video game system comprising:
   - a processor unit for executing game instructions and displaying video images on a delay screen, the processor includes a receiver for receiving wireless identification and control signal transmissions; and
   - a personalized portable control comprising:
     - a plurality of control switches for generating game control signals;
     - a non-volatile memory for storing personalized identification information corresponding to a user of the controller, the personalized identification information comprises a user age, and historical game performance data; and
     - a transmitter for wireless transmitting of the personalized identification and game control signals to the processor unit, wherein the processor unit authorizes game execution based on the user age, further the processor unit comprises a transmitting for transmitting the historical game performance data to the portable controller.

2. The video game system of claim 1 wherein the processor unit further comprises a memory for storing user information corresponding to a plurality of possible users.

3. The video game system of claim 2 wherein the user information stored in the memory of the processor unit is retrieved for use by the processor unit in response to the identification signal transmitted by the personalized portable controller.

4. The video game system of claim 3 wherein the identification signal is transmitted from the personalized portable controller with a transmission of each control signal.

5. The video game system of claim 2 wherein the user information stored in the memory of the processor unit is down loaded from the personalized portable controller prior to the operation of a video game.

6. The video game system of claim 1 further comprising:
   - a wireless transmitter located in the processor unit for transmitting updated information to the personalized portable controller; and
   - a receiver located in the personalized portable controller for receiving the updated information for storage in the non-volatile memory of the personalized portable controller.

7. The video game system of claim 1 wherein the personalized portable controller includes a removable rechargeable battery park.

8. The video game system of claim 1 wherein the personalized portable controller includes power saver circuitry for reducing the power consumption of the controller when the controller is not in use.

9. A personalized portable video game controller comprising:
   - a wireless transmitter for transmitting user personalized information and video game control signals to a video game processor, the personalized identification comprises a user age, and historical performance data;
   - a plurality of input controls for generating the control signals in response to movements by a user;
   - a non-volatile memory for storing the user personalized information; and
   - a receiver for receiving wireless transmissions from the video game processor, the received wireless transmissions including performance data to be stored in the non-volatile memory.

10. The personalized portable video game controller of claim 9 wherein at least a portion of the user personalized information is transmitted to the video game processor with each control signal transmission.

11. The personalized portable video game controller of claim 9 wherein the user personalized information is selected from the group comprising user name, video game skill level, video game operating preferences, previous video game scores, or user age.

12. The personalized portable video game controller of claim 9 wherein the user personalized information is updated during video game operation via wireless transmissions from the video game processor.

13. The personalized portable video game controller of claim 9 wherein the user personalized information is transmitted from the controller to the game processor prior to interactive operation of a video game.

14. The personalized portable video game controller of claim 9 further comprising a removable rechargeable battery pack.

15. The personalized portable video game controller of claim 14 wherein the personalized portable controller includes power saver circuitry for reducing the power consumption of the controller when the controller is not in use.

16. A method of operating an interactive video system, the method comprising:
   - activating a processing unit;
   - transmitting personalized information from a controller using wireless transmissions, the personalized identification information comprising a user age, and historical performance data;
   - storing the personalized information in a memory of the processing unit;
   - authorizing operation of a video game based upon the user age;
   - transmitting updated personalized information from the processing unit to the controller using wireless transmissions; and
   - storing the updated personalized information in a memory of the controller.

17. The method of claim 16 wherein the personalized information is transmitted from the controller prior to interactive operation of a video game.

18. The method of claim 16 wherein the updated personalized information is transmitted during interactive operation of a video game.

19. A method of operating an interactive video game system comprising:

activating a game processing unit;

transmitting personalized information from a controller using wireless transmissions, the personalized identification information is stored in a memory of the controller and comprises a user age; and

adjusting a video game based upon the user age.

* * * * *

20/5,K/25 (Item 25 from file: 350) **Links**
Derwent WPIX

0012288186 *Drawing available*
WPI Acc no: 2002-229164/200229
XRPX Acc No: N2002-176140
Video game system for Internet, changes the view point positions in virtual three-dimensional space based on object condition and accordingly images are displayed
Patent Assignee: KCE JAPAN KK (KCEN-N); KITAO T (KITA-I); KONAMI COMPUTER ENTERTAINMENT OSAKA KK (KONA-N)
Inventor: KITAO T

Patent Family (5 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1136107	A2	20010926	EP 2001302725	A	20010323	200229	B
JP 2001269482	A	20011002	JP 200088606	A	20000324	200229	E
US 20010024972	A1	20010927	US 2001815571	A	20010323	200229	E
US 6835136	B2	20041228	US 2001815571	A	20010323	200502	E
US 20050049047	A1	20050303	US 2001815571	A	20010323	200517	E
			US 2004965295	A	20041014		

Priority Applications (no., kind, date): JP 200088606 A 20000324

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
EP 1136107	A2	EN	19	8		
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
JP 2001269482	A	JA	12			
US 20050049047	A1	EN			Division of application	US 2001815571
					Division of patent	US 6835136

Alerting Abstract EP A2
NOVELTY - Several view point positions are set in a virtual three-dimensional space. The view point position is changed based on the object condition. Based on the changed positions, the visual image of object is indicated on a screen.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

A. Image display method;
B. Computer readable medium **storing** image display programs

USE - For controlling image display in on-line **video game** system using **Internet** and for commercial **game machine**, domestic **game machine**.
ADVANTAGE - Changes the view point position smoothly, thereby image is displayed in most appropriate position to player, hence comfortable three-dimensional game is realized.
DESCRIPTION OF DRAWINGS - The figure shows the rough sketch representing camera movement along virtual line.

Title Terms /Index Terms/Additional Words: VIDEO; GAME; SYSTEM; CHANGE; VIEW; POINT; POSITION; VIRTUAL; THREE; DIMENSION; SPACE; BASED; OBJECT; CONDITION; ACCORD; IMAGE; DISPLAY

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-013/00; A63F-013/10; A63F-009/24			Main		"Version 7"
G06T-017/40			Secondary		"Version 7

US Classification, Issued: 463033000, 463033000, 463033000, 463043000

File Segment: EngPI; EPI;
DWPI Class: T01; W04; P36
Manual Codes (EPI/S-X): **T01-H07C5E; T01-J10C4A; T01-P02; T01-S03; W04-X02C**

Video game system for Internet, changes the view point positions in virtual three-dimensional space based on object condition and accordingly images are displayed ...Original Titles:Game system, **computer** readable **storage** medium **storing** game program and image displaying method... ...**GAME** SYSTEM, **COMPUTER**-READABLE **RECORDING** MEDIUM IN WHICH PROGRAM FOR GAME IS **STORED** AND IMAGE DISPLAYING METHOD... ...**Game** system, **computer** readable **storage** medium **storing** game program and image displaying method... ...**Game** system, **computer** readable **storage** medium **storing** game program and image displaying method **Alerting Abstract** ... Image display method; Computer readable medium **storing** image display programs ... ... USE - For controlling image display in on-line **video game** system using **Internet** and for commercial **game machine**, domestic **game machine.Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-013/00**... ...**A63F-013/10**... ...**A63F-009/24** Main Manual Codes (EPI/S-X): **T01-H07C5E**... ...**T01-J10C4A**... ...**T01-P02**... ...**T01-S03**... ...**W04-X02C** Original Publication Data by Authority...**Claims:**dimensional space, selectively switching the view point position in accordance with a state of said object, and displaying the visual field image on the game **screen viewing** said object from view point positions moving from one position to another when the view point position is switched... ... **1**. A game system displaying an image on a game screen **captured** from a predetermined view point position with a virtual camera wherein a first object operated by a player and a second object having a relation **with** the first object move in a virtual three-dimensional space;the game system comprising:a view point position setting device for setting a first view...

US006835136B2

(12) **United States Patent**
Kitao

(10) **Patent No.: US 6,835,136 B2**
(45) **Date of Patent: Dec. 28, 2004**

(54) **GAME SYSTEM, COMPUTERR READABIIE STORAGE MEDIUM STORING GAME PROGRAM AND IMAGE DISPIAAYING METHOD**

(75) Inventor: **Takashi Kitao**, Tokyo (JP)

(73) Assignee: **Konami Computer Entertainment Japan, Inc.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 393 days.

(21) Appl. No.: **09/815,571**

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(30) **Foreign Application Priority Data**

Mar. 24, 2000 (JP) 2000-086606

(51) **Int. Cl.**[7] **A63F 9/24**
(52) **U.S. Cl.** 463/33; 463/43
(58) **Field of Search** 463/1, 30, 31, 463/32, 33, 34, 36, 37, 38, 43

(56) **References Cited**

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EP	0893149	1/1999
EP	0933105	8/1999
EP	0952555	10/1999
JP	11-007543	1/1999
JP	11007543	1/1999

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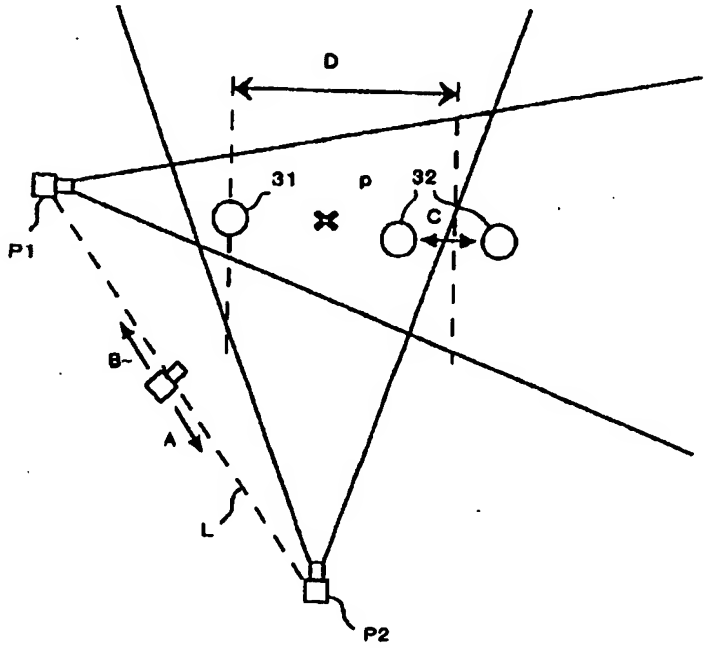
Primary Examiner—Nguyen Kim
(74) *Attorney, Agent, or Firm*—Jordan and Hamburg LLP

(57) **ABSTRACT**

Game systems in which an object is arranged in a virtual three-dimensional space including a display device, an input device for outputting signals according to player operations and a game control device for executing a game according to a program while checking the output of the input device and displaying a visual field image including the object on the display device. The visual field image is viewed from a predetermined view point position in the virtual three-dimensional space. The game control device includes a position determining device for determining whether to view the object from a first view point position which is a back and slightly inclined position toward a moving direction of the object to view an observation position set forward the object, or from a second view point position from which the observation point is viewed in a fixed direction regardless of the movement of the object.

9 Claims, 8 Drawing Sheets



GAME SYSTEM, COMPUTER READABLE STORAGE MEDIUM STORING GAME PROGRAM AND IMAGE DISPLAYING METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a a game system for displaying an image of an object moving in a virtual three-dimensional space.

2. Description of the Related Art

Recently, a game system which performs three-dimensional processing for a game picture has become common. For example, such as a shooting game, a game with a full of presence can be provided by displaying a three-dimensional situation in which an encountered opponent character is attacked.

In such a game system, a view point position and an observation point, as standards for a display range, are settled in accordance with the situation as adz display object for a character or a various kind of constitution arranged at a predetermined coordinate position respectively on a game field settled in a virtual three-dimensional space.

Thus, a player can operate the character while watching a picture as if captured by a virtual camera which moves around freely in a three-dimensional game field.

However, for example such as in a shooting game, a character as an operation object generally moves very rapidly. Furthermore, the character changes its position intensely at a battle scene against an opponent character. Therefore, a problem which makes the player uncomfortable occurs, because a display picture in the three-dimensional space turns around rapidly when the player watches a specific observation point while following the movement of the character as an operation object by the above mentioned virtual camera to enhance the reality of the game.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a game system capable of solving the above mentioned problem. The game system is capable for displaying a game picture which makes the player feel presence and does not give the player an uncomfortable feeling when an operation object moving freely on the game field in the three-dimensional space is displayed.

Now, the present invention will be described.

According to the first embodiment of this invention, there is provided a game system arranging an object in a virtual three-dimensional space and displaying a visual field image on a game screen viewing the object from a predetermined view point position. In the game system, a plurality of view point positions are arranged in the virtual three-dimensional space, the view point position is selectively switched in accordance with a state of the object, and a visual field image is displayed on a game screen viewing the object from view point positions moving from one position to another when the view point position is switched.

According to another aspect of the first embodiment of this invention, there is provided a computer readable recording medium including a program for allowing a computer, included in a game system arranging an object in a virtual game space and displaying a visual field image on a game screen viewing an object from a predetermined view point position, to function so as to switch the view point position selectively in accordance with a state of the object by setting a plurality of view point positions in the virtual three-dimensional space, and to display the visual field image on the game screen viewing the object from view point positions moving from one position to another when the view point position is switched.

According to another aspect of the first embodiment of this invention, there is provided an image displaying method arranging an object in a virtual three-dimensional space and displaying a visual field image on a game screen viewing the object from a predetermined view point position. A plurality of view point positions are set or determined in the virtual three-dimensional space, the view point position is selectively switched in accordance with a state of the object, and a visual field image viewing the object from view point positions moving from one position to another is displayed on the screen.

According to these aspects of the first embodiment of the invention, an object in the virtual three-dimensional space is displayed on the game screen and the view point position is switched one after another in accordance with the state change of the object position. The view point position moves smoothly while displaying the object when the position is switched. Accordingly, the player can watch a picture from the most appropriate position in accordance with the game progress. Further, the player does not feel uncomfortable, resulting in a comfortable three-dimensional game with full of presence.

According to the second embodiment of this invention, there is provided a game system displaying an image on the game screen captured by a virtual camera from a predetermined view point position to an object moving in a virtual three-dimensional space in accordance with a player's operation, wherein the game system comprises a view point position setting device for setting a first view point position from which a predetermined observation point is viewed while following a movement of an operation object, and a second view point position from which the operation object is viewed in a predetermined fixed direction, and a virtual camera setting device for arranging the virtual camera by switching alternatively the first view point position to the second view point position corresponding to a state of the operation object and for moving the virtual camera along a virtual line connecting the first view point position with the second view point position while keeping a state of capturing the operation object when the view point position is switched.

According to another aspect of the second embodiment of this invention, there is provided a computer readable storage medium including a program for allowing a computer constituting a game system, the game system displaying a picture captured by a virtual camera from a predetermined view point position to an object moving in accordance with a player's operation in a virtual three-dimensional space, to function as, a view point position setting device for setting a first view point position to view a predetermined observation point following a movement of an operation object and a second view point position to fixedly view the operation object in a predetermined direction, and a virtual camera setting device for arranging the virtual camera by switching the first view point position alternatively to the second view point position corresponding to a state of the operation object, and for moving the virtual camera along a virtual line connecting the first view point position to the second view point position while keeping a state of capturing the operation object when the view point position is switched.

According to another aspect of the second embodiment of this invention, there is provided an image displaying method

process in step S7 corresponding to the case (c) will be explained by referring to FIG. 8. FIG. 8 illustrates the method to move the virtual camera along the virtual line connecting the first view point position P1 and the second view point position P2, wherein the first view point position P1 shown in FIG. 3 is superimposed on the second view point position P2 shown in FIG. 5. In this case (c), a virtual line connecting the first view point position P1 to the second view point position P2 is set as a path for the view point position change of the virtual camera in accordance with a distance between the player's own character 31 and the opponent character 32. Still, it will be assumed in the following explanation that the virtual line is a straight one, however, the virtual line may be a curved line.

In FIG. 8, it is assumed that the virtual camera is in a state where it is set at the view point position P1 and the condition of step S3 is not satisfied (d>D). At this point of time, if the player's own character 31 approaches the opponent character 32 and the condition of step S3 is satisfied (d<D), the virtual camera starts moving and moves on the virtual line L along an arrow A to the view point position P2. Still, the visual field image is kept to face the observation point p even during the virtual camera is moving.

On the other hand, in FIG. 8, it is assumed that the virtual camera is in a state where it is set at the view point position P2 and the condition of step S3 is satisfied (d<D). At this point of time, if the condition of step S3 is not satisfied and the player's own character 31 leaves the opponent character 32 far beyond (d>D), the virtual camera starts moving and moves in the opposite direction on the virtual line L along the arrow B toward the view point position P1.

Here, the moving speed of the virtual camera on the virtual line L can be settled as required. For example, in the case where the virtual camera moves along the arrow A, if the distance between the player's own character 31 and the opponent character 32 is rapidly shortened, the virtual camera had better be moved quickly to follow it, while if the distance between the player's own character 31 and the opponent character 32 is slowly changed, the virtual camera had better be moved slowly.

Thus, it is avoided that the player watching the game picture feels uncomfortable as a result of rapid change of the view point or that the visibility turns for worse by smoothly moving the virtual camera along the virtual line L and not by switching the virtual camera position instantly from the first view point position P1 to the second view point position P2.

Backing to FIG. 6, in step S8, an image processing is performed by generating image data in accordance with the processing result in step S7 at image processing portion 17 and outputting the picture on the monitor 19 is performed. In the generated image data, objects such as the player's own character 31 and the opponent character 32 are arranged by converting the coordinates as viewed from the view point position where the virtual camera is arranged. If the processing of step S8 is finished, the process returns to step S1 and the processing of step S1 to S8 is repeatedly performed during the game proceeds.

In the above mentioned embodiment, the shooting game in which the player's own character 31 and the opponent character 32 fight each other was explained, however this invention is not limited to this embodiment and is applicable to another type of the game. Further, a game system which embodies this invention can use a business use game machine, home use game machine, or on-line game system via internet and the like. Still, as the storage medium storing the game program which makes this invention function, CD-ROM, floppy disc, hard disc and other storage medium can be used in addition to DVD-ROM.

As explained above, according to this invention, a game system capable of displaying a game picture by means of which a player feels presence and does not feel uncomfortable can be provided by setting a plurality of view points on the game field in the virtual three-dimensional space, switching selectively the view point position of the visual field viewing the object, and displaying the visual field image during the movement between different view point positions.

What is claimed is:

1. A game system in which an object is arranged in a virtual three-dimensional space, comprising:

a display device for displaying a game screen;

an input device for outputting signals according to operations by a player; and

a game control device for executing a game according to a predetermined program while checking the output of the input device and displaying a visual field image including said object moving to a moving direction on the game screen through the display device, the visual field image being viewed from a view point position in the virtual three-dimensional space,

wherein the game control device comprises:

a position determining device for determining a view point position between a first view point position which is a back and slightly inclined position toward the moving don of said object to view an observation point set forward of said object moving to the moving direction, and a second view point position 0 a side of said object relative to the moving direction and from which the observation point is viewed fixed regardless of the movement of said object in accordance with a state of said object; and

a switch control device for switching between the first view point position and the second viewpoint position when said object reaches a predetermined position, the switch control device being arranged to move between the first and second view point positions on a line between them when they are switched, and while switching been the first and second view point positions, displaying the view field image from moving view point positions on the line between the first and second view point positions.

2. A game system according to claim 1, wherein the position determining device is arranged to situate the second view point position aslant and to the side of said object such that the side of said object is viewed on the game screen.

3. A game system displaying an image on the game screen captured by a virtual camera from a predetermined view point position to an object moving in a virtual three-dimensional space in accordance with a player's operation, wherein the game system comprises:

a view point position setting device for setting a first view point position which is a back and slightly inclined position toward a moving direction of sad object to view an observation point set forward of said object moving to the moving direction and a second view point position relative to the moving direction and from which the observation point is viewed fixed regardless of the movement of said object in accordance with a state of said object; and

a virtual camera setting device for arranging said virtual camera by switching alternatively said first view point position to said second view point position correspond-

ing to a state of said object and for moving said virtual camera along a virtual line connecting said first view-point position with said second view point position while keeping a state of capturing said object when the view point position is switched.

4. A computer readable recording medium recording a program for allowing a computer, included in a game system in which an object is arranged in a viral three-dimensional space, to function as the following:

a display device for displaying a game screen;

an input device for outputting signals according to operations by a player; and

a game control device for executing a game according to the program while checking the output of the input device and displaying a visual field image including said object moving in a moving direction on the game screen through the display device, the visual field image being viewed from a view point position in the virtual three-dimensional space,

wherein the game control device comprises:

a position determining device for determining one view point position between a first view point position which is a back and slightly inclined position toward the moving direction of said object to view an observation point set forward of said object moving to the moving direction, and a second view point position on a side of said object relative to the moving direction and from which the observation point is viewed fixed regardless of the movement of said object in accordance with a state of said object; and

a switch control device for switching between the first view point position and the second viewpoint position when said object reaches a predetermined position, the switch control device being arranged to move between the first and second view point positions on a line between them when they are switched, and while switching between the first and second view point positions, displaying the view field image from moving view point positions on the line between the first and second view point positions.

5. A computer readable recording medium according to claim 4, wherein the position determining device is arranged to situate the second view point position aslant to the side of said object such that the side of said object is viewed on the game screen.

6. A computer readable storage medium including a program for allowing a computer constituting a game system, the game system displaying a picture captured by a virtual camera from a predetermined view point position to an object moving in accordance with a players operation in a virtual three-dimensional space, to function as:

a view point position setting device for setting a first view point position to which is a back and slightly inclined position toward a moving direction of said object to view an observation point set forward of said object moving to the moving direction and a second view point position on aside of said object relative to the moving direction and from which the observation point is viewed fixed regardless of the movement of said object in accordance wit a state of said object; and

a virtual camera setting device for arranging said virtual camera by switching said fit view point position alternatively to said second view point position corresponding to a state of said object, and for moving said vital camera along a virtual line connecting said first view point position to said second view point position while keeping a state of capturing said object when the view point position is switched.

7. An image display method for a game system in which an object is arranged in a virtual three-dimensional space, the game system including a display device for displaying a game screen, an input device for outputting signals according to operations by a player, and a game control device for executing a game according to the program while checking the output of the input device and displaying a visual field image including said object moving to a moving direction on the game screen through the display device, the visual field image being viewed from a view point position in the virtual three-dimensional space, the method comprising the steps of:

determining one view point position between a first view point position which is a back and slightly inclined position toward the moving direction of said object to view an observation point set forward of said object moving to the moving direction, and a second view point position on a side of said object relative to the moving direction and from which an observation point is viewed fixed regardless of the movement of said object in accordance with state of said object; and

switching between the first view point position and the second view point position when said object reaches a predetermined position by moving between the first and second view point positions on a line between them and while switching between the first and second view point positions, displaying the view field image from moving viewpoint positions on the line between the first and second viewpoint positions.

8. A method according to claim 7, further comprising the step of determining the second viewpoint position as a position aslant and to the side of said object such that the side of said object is viewed on the game screen.

9. An image displaying method displaying a visual field image viewed from a predetermined view point position by a virtual camera toward an object moving in accordance with a player's operation in a virtual three-dimensional space, comprising;

a view point position setting device for setting a first view point position for which is a back and slightly inclined position toward a moving direction of said object to view an observation point set forward of said object moving to the moving direction, and a second view point position on a side of said object relative to the moving direction and from which the observation point is viewed fixed regardless of the movement of said object in accordance with a state of said object; and

a virtual camera setting device for arranging said virtual camera by alternatively switching said first view point position to said second view point position in accordance with a state of said object, and moving said virtual camera along a line connecting said first view point position with said second view point position while keeping a state of capturing said operas object when the view point position is switched.

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20/5,K/62 (Item 62 from file: 350) **Links**
Derwent WPIX

0009695769 Drawing available
WPI Acc no: 1999-305301/199926
XRPX Acc No: N1999-228829
Image creating device for video game machine
Patent Assignee: NINTENDO CO LTD (NINT)
Inventor: ENDO T; MATSUOKA H; MATSUOKA Y; SAWANO T

Patent Family (10 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
GB 2331885	A	19990602	GB 199824668	A	19981111	199926	B
DE 19853676	A1	19990527	DE 19853676	A	19981120	199927	E
JP 11154240	A	19990608	JP 1997337655	A	19971120	199933	E
CA 2253730	A1	19990520	CA 2253730	A	19981110	199945	E
US 20010006391	A1	20010705	US 1998190601	A	19981112	200139	E
			US 2001788574	A	20010221		
US 6285381	B1	20010904	US 1998190601	A	19981112	200154	E
GB 2331885	B	20020403				200231	E
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US 6677967	B2	20040113	US 1998190601	A	19981112	200405	E
			US 2001788574	A	20010221		
DE 19853676	B4	20070705	DE 19853676	A	19981120	200746	E

Priority Applications (no., kind, date): JP 1997337655 A 19971120

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
GB 2331885	A	EN	53	18		
DE 19853676	A1	DE	23			
JP 11154240	A	JA	14			
CA 2253730	A1	EN				
US 20010006391	A1	EN			Division of application	US 1998190601
CA 2253730	C	EN				
US 6677967	B2	EN			Division of application	US 1998190601
					Division of patent	US 6285381

Alerting Abstract GB A
NOVELTY - The device has an original image data store with temporary stores for captured image and parts of cutout image data from the captured image. A program store is provided for image creation program, write programs

to capture image data, read programs for data stored, cutout program for specifying area of image to cut out and read/display programs to read cutout image data store.
DESCRIPTION - The device captures video signals from a TV receiver, video camera, VCR etc.. It processes the image data to create an image defined by the user. The game machine (10) CPU process an image created using programs stored in memory. Memory cartridge (30) contains ROM (31) with different storage regions for system programs. Its RAM is used to store image data for the user to create an image.
In use, objects are displayed on screen (50) for the user to select, icons show functions selectable. User presses an operating switch (24) to specify actions of the player characters or objects and select commands in image creating mode.
USE - For moving images, video game machine.
ADVANTAGE - Easy, simple operation.
DESCRIPTION OF DRAWINGS - Perspective view of structure of device.
10 game machine
24 user input switch
30 memory cartridge

Title Terms /Index Terms/Additional Words: IMAGE; DEVICE; VIDEO; GAME; MACHINE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G06T-0011/80	A	I	L	R	20060101
G06T-0017/40	A	I		R	20060101
G06T-0003/00	A	I	F	R	20060101
G06T-0011/80	A	I	F	B	20060101
G06T-0011/80	C	I	L	R	20060101
G06T-0017/40	C	I		R	20060101
G06T-0003/00	C	I	F	R	20060101
G06T-0011/80	C	I		B	20060101

US Classification, Issued: 345418000, 345634000, 345582000, 345716000, 345764000, 345726000, 345716000 , 345765000, 345848000, 345839000

File Segment: EngPI; EPI;
DWPI Class: W04; P36
Manual Codes (EPI/S-X): **W04-N05C3**

Class Codes Manual Codes (EPI/S-X): **W04-N05C3** Original Publication Data by Authority...**Original Abstracts:**A frame of still picture data is **captured** at an instant specified by a user from video signals supplied from a given video source, such as a television receiver, a video camera, etc., and the image data is displayed. When the user specifies an area of image to be cut out from the displayed **still picture**, the image data in the specified area is cut out and **recorded** as a cutout image. Each cutout image **recorded** is displayed in the form of an icon. When any of the icons is selected by the user, the corresponding cutout image data is read... ...**Claims:**What is claimed is:**1**. An image creating device for **capturing** image data supplied from a given video source and combining the image data

with original image data to create a desired image, or an image... ... means, said image creating device comprising:operation input means for inputting instructions required for image creation according to operation by a user;original image data **storing** means for temporarily **storing** the original image data;first temporarily **storing** means for temporarily **storing captured** image data;second temporarily **storing** means for temporarily **storing** at least one piece of cutout image data cut out from the **captured** image data;third temporarily **storing** means for **storing** image data for said desired image to be displayed;program **storing** means for **storing** program data for the image creation; andprocessing means for conducting processings for the image creation on the basis of the program data for the image creation **stored** in said program **storing** means;wherein the program data **stored** in said program **storing** means includes,a first write program responsive to operation of said operation input means, for **capturing** the image data supplied from said given video source and writing the image data into said first temporarily **storing** means as said **captured** image data,a first read/display program for reading the **captured** image data **stored** in said first temporarily **storing** means and displaying the **captured** image in said display means,a cutout program for, when said operation input means is operated to specify an area of image to be cut out from the **captured** image displayed in said display means, temporarily **storing** the image data corresponding to the specified area into said second temporarily **storing** means as said cutout image data,a second read/display program for reading the cutout image data **stored** in said second temporarily **storing** means and displaying the cutout image data as an icon in part of screen of said display means,a second write program for reading the original image data **stored** in said original image data **storing** means and writing the original image data into said third temporarily **storing** means,a third write program for, when said operation input means is operated to select the icon of said cutout image in order to combine... ... original image displayed in said display means to be changed which was specified by operation of said operation input, writing the corresponding cutout image data **stored** in said second temporarily **storing** means upon the corresponding region in said third temporarily **storing** means, anda third read/display program for reading the combined image data **stored** in said third temporarily **storing** means in which said cutout image data is written and displaying the combined image data in said display means... ... An image creating device for **capturing** image data supplied from a given video source and combining the image data with original image data to create a desired image, or an image... ... means, said image creating device comprising:operation input means for inputting instructions required for image creation according to operation by a user;original image data **storing** means for temporarily **storing** the original image data;first temporarily **storing** means for temporarily **storing captured** image data;second temporarily **storing** means for temporarily **storing** at least one piece of cutout image data cut out from the **captured** image data;third temporarily **storing** means for **storing** image data for said desired image to be displayed;program **storing** means for **storing** program data for the image creation; andprocessing means for conducting processings for the image creation on the basis of the program data for the image creation **stored** in said program **storing** means;wherein the program data **stored** in said program **storing** means includes,a first write program responsive to operation of said operation input means, for **capturing** the image data supplied from said given video source and writing the image data into said first temporarily **storing** means as said **captured** image data,a first read/display program for reading the **captured** image data **stored** in said first temporarily **storing** means and displaying the **captured** image in said display means,a cutout program for, when said operation input means is operated to specify an area of image to be cut out from the **captured** image displayed in said display means, temporarily **storing** the image data corresponding to the specified area into said second temporarily **storing** means as said cutout image data,a second read/display program for reading the cutout image data **stored** in said second temporarily **storing** means and displaying the cutout image data as an icon in part of screen of said display means,a second write program for reading the original image data **stored** in said original image data **storing** means and writing the original image data into said third temporarily **storing** means,a third write program for, when said operation input means is operated to select the icon of said cutout image in order to combine... ... original image displayed in said display means to be changed which was specified by operation of said operation input, writing the corresponding cutout image data **stored** in said second temporarily **storing** means upon the corresponding region in

said third temporarily **storing** means, anda third read/display program for reading the combined image data **stored** in said third temporarily **storing** means in which said cutout image data is written and displaying the combined image data in said display means... ... What is claimed is:1. In a software-controlled home **video game** machine system specifically designed for interactive 3D **video game** play, including 3D animated graphics and associated sound generation, said home **video game** machine system including a user-operable hand-held controller having a housing and a joystick provided thereon communicating with (i) a main processor, (ii) a 3D graphics coprocessor connected to the main processor for providing at least polygon coordinate transformation and light source processing, and (iii) at least one **memory** including a frame **buffer** communicating with the 3D graphics coprocessor, said at least one **memory storing** plural polygon coordinates defining surfaces of 3D animated **video game** characters, the home **video game** machine system playing interactive games based on software loaded therein, a method for allowing a **video game** player to create animated 3D images from **captured** 2D image data and interact with the animated 3D images to provide interactive game play, comprising:(a) providing a **captured** 2D color image to the home **video game** machine system for **storage** into said at least one **memory**;(b) allowing the **video game** player to select a portion of the **captured** 2D color image by operating the user-operable hand-held controller of the home **video game** machine system, the selected portion being at least temporarily **stored** in said at least one **memory** communicating with the 3D graphics coprocessor of the home **video game** machine system;(c) processing, with at least one of the home **video game** machine system main processor or the home **video game** machine system 3D graphics coprocessor, the selected 2D color image portion to convert the selected 2D color image portion into a color texture;(d) texture mapping, using the home **video game** machine system 3D graphics coprocessor, the color texture obtained from the processed selected 2D color image portion onto a predefined surface of a 3D **video game** character defined by plural polygon coordinates **stored** in the at least one **memory** communicating with the 3D graphics coprocessor; and(e) animating and displaying, using at least the main processor and 3D graphics coprocessor, the 3D **video game** character having the applied color texture to provide interactive **video game** play in response to manipulation of the user-operable hand-held controller.

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Sawano et al.

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(54) VIDEO GAME SYSTEM FOR CAPTURING IMAGES AND APPLYING THE CAPTURED IMAGES TO ANIMATED GAME PLAY CHARACTERS

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 71 days.

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(65) Prior Publication Data

US 2001/0006391 A1 Jul. 5, 2001

Related U.S. Application Data

(62) Division of application No. 09/190,601, filed on Nov. 12, 1998, now Pat. No. 6,285,381.

(30) Foreign Application Priority Data

Nov. 20, 1997 (JP) 9-337655

(51) Int. Cl.[7] G06F 3/00; G06T 3/00

(52) U.S. Cl. 345/839; 345/716; 345/765; 345/848

(58) Field of Search 345/419, 425, 430-434, 626, 636, 646, 716, 762, 764, 765, 838, 848; 348/576, 584, 586, 589; 358/906, 909.1; 463/31-34

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(List continued on next page.)

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(57) ABSTRACT

A frame of still picture data is captured at an instant specified by a user from video signals supplied from a given video source, such as a television receiver, a video camera, etc., and the image data is displayed. When the user specifies an area of image to be cut out from the displayed still picture, the image data in the specified area is cut out and recorded as a cutout image. Each cutout image recorded is displayed in the form of an icon. When any of the icons is selected by the user, the corresponding cutout image data is read and pasted in a part to be changed in the original image data. Thus an image can be easily created by user's choice.

12 Claims, 14 Drawing Sheets

image in the selected area is cut out in step S41. When it is required that the size of the cutout image be changed, a process of changing the size (a process of enlarging or contracting the section of the image to be cut out) is performed in step S42. Next, in step S43, the color data of the cutout image is written into a free area in the storage region 154. Next, in step S44, the cutout image data stored in the respective areas in the storage region 154 are displayed as icons on the right side of the screen as shown in FIG. 15, with the latest cutout image being displayed in the large area in the center of the screen. At the same time, icons for selecting saving or canceling of the latest cutout image are displayed on the left side of the screen. Next, in step S45, it is determined whether the icon for specifying "Save" is selected. When "Save" is not selected, it is determined in step S46 whether the icon indicating "Cancel" is selected. When neither of the icons is selected, the routine returns to the operation in step S44 and the operations in steps S44, S45 and S46 are repeated.

When the icon indicating "Save" is selected, it is decided in step S45 and the routine moves to the next step S7. When the icon indicating "Cancel" is selected, it is detected in step S46 and the routine returns to the cutout area selecting process in step S5.

Next, referring to FIG. 10, the process of saving the cutout image (step S7) will be described in detail. First, in step S51, the process of correcting the color captured image stored in the storage region 153 is performed, and then the color captured image data is transferred and stored into the storage region 155. In the process of correcting color captured image, when the captured image is a face of a person, the face is represented in an egg-shaped area inside the rectangular box (see FIG. 15). Accordingly, the captured image data in the four corners of the rectangular box is shaded or masked off. Or, alternatively, color data in two separate, distinct points in the face (e.g., forehead and chin) can be added and divided by two to obtain the average, and the average color data is written in the part of the captured image data outside the face outline. Another method of correcting the captured face image involves writing color data as if a filter or mask is superimposed on the cutout color captured image, wherein the filter or mask is transparent in the egg-shaped part surrounded by the rectangular box and the transparency decreases (i.e., the mask becomes more opaque) in areas outward from the periphery of the egg-shaped part. The color captured image thus corrected is enlarged and displayed in a large area in the center of the CRT display 52 (see FIG. 16) and is superimposed onto the shoulders of the character to receive the captured facial image.

At the same time, a plurality of icons of textures showing previously captured cutout images are displayed around the display frame, and various commands are also displayed. Next, in step S52, it is determined whether the cutout color captured image should be saved in the external storage medium, e.g., in the storage region in the RAM 32 (or in the writable region 45B in the magnetic disk 45). When the user does not select the icon indicating saving, this is detected in step S52 and the routine moves to step S53. The program detects in step S53 whether the icon indicating canceling is selected, and if it is determined that the icon is not selected, the routine moves to the operation in step S51. In this way, when none of the commands is selected, the operations in steps S51, S52 and S53 are repeated. At this time, if the user selects the command indicating saving (or backup storage), this is detected in step S52 and color data of the plurality of cutout images stored in the storage region 154 are written into the RAM 32 (or the writable region 45B in the magnetic disk 45) and the routine moves to the operation in step S8.

When the icon indicating canceling is selected, this is detected in step S53 and the routine returns to the cutout image area selecting process in step S5.

Next, with the character having the face cut out and pasted onto it as described above being displayed as shown in FIG. 18, the operation for causing the character to move (i.e., be animated) in a desired way will be described. In this case, as shown in FIG. 18, the face part of the character is changed to the cutout color captured image, and textures of clothes chosen by the user are pasted thereon.

Then, as shown in the left side of the display in FIG. 18, icons for selecting types of motion of the character are displayed. When one of the icons is selected, an animation display program (a program for realizing display of motion of the character) corresponding to the selected icon is read from the storage region 314 in the ROM 31 or from the storage region 454 in the magnetic disk 45, and written into the transfer and storage region in the RAM 15. Then the CPU 13 executes the transferred animation display program to calculate coordinate data of the polygons of the character, frame by frame, according to previously prepared movement patterns and animations. Further, textures (pattern tiles) of the hands, legs, body, clothes, etc. are pasted on the individual parts of the character on the basis of the calculation about a plurality of polygons, and they are written into the storage region 155. The texture data written in the storage region 155 is read and displayed, to give motion to the individual parts of the body of the character as a still object shown in FIG. 18.

The user can play games by using the image created in the above-described embodiment. In this case, the user operates the direction specifying switch 22 or the analog stick 23 to specify movement of the created character, and the background image is changed by program according to the movement of the character.

While the above-described embodiment provides an example in which image of a part of the body (e.g., the face) of an initial image, e.g., an image of a character, is changed to a separately captured color image, it is noted here that the present invention can be applied with a variety of modifications and changes. For example, the face part can be changed to a face of an animal, or an original picture of an animal can be used and the face of the original picture can be changed to a face of another animal.

While the present invention has been described in detail, the foregoing description is in all aspects illustrative and not restrictive. It is understood that numerous other modifications and variations can be devised without departing from the scope of the invention.

What is claimed is:

1. In a software-controlled home video game machine system specifically designed for interactive 3D video game play, including 3D animated graphics and associated sound generation, said home video game machine system including a user-operable hand-held controller having a housing and a joystick provided thereon communicating with (i) a main processor, (ii) a 3D graphics coprocessor connected to the main processor for providing at least polygon coordinate transformation and light source processing, and (iii) at least one memory including a frame buffer communicating with the 3D graphics coprocessor, said at least one memory storing plural polygon coordinates defining surfaces of 3D animated video game characters, the home video game machine system playing interactive games based on soft-

ware loaded therein, a method for allowing a video game player to create animated 3D images from captured 2D image data and interact with the animated 3D images to provide interactive game play, comprising:

(a) providing a captured 2D color image to the home video game machine system for storage into said at least one memory;

(b) allowing the video game player to select a portion of the captured 2D color image by operating the user-operable hand-held controller of the home video game machine system, the selected portion being at least temporarily stored in said at least one memory communicating with the 3D graphics coprocessor of the home video game machine system;

(c) processing, with at least one of the home video game machine system main processor or the home video game machine system 3D graphics coprocessor, the selected 2D color image portion to convert the selected 2D color image portion into a color texture;

(d) texture mapping, using the home video game machine system 3D graphics coprocessor, the color texture obtained from the processed selected 2D color image portion onto a predefined surface of a 3D video game character defined by plural polygon coordinates stored in the at least one memory communicating with the 3D graphics coprocessor; and

(e) animating and displaying, using at least the main processor and 3D graphics coprocessor, the 3D video game character having the applied color texture to provide interactive video game play in response to manipulation of the user-operable hand-held controller.

2. The method of claim 1 wherein step (a) comprises capturing live video from a camera and generating a 2D still image from said captured video and storing the 2D still image in the at least one memory communicating with the home video game machine system 3D graphics coprocessor.

3. The method of claim 1 wherein step (b) includes displaying a cutout window overlaid onto the captured image and allowing the game player operating the user-operable hand-held controller to change the position and dimensions of the cutout window so as to select a cutout portion of the captured 2D image and store the selected cutout portion in the at least one memory for application to the 3D character using the home video game machine system 3D graphics coprocessor.

4. The method of claim 1 wherein step (b) includes allowing the game player operating the user-operable hand-held controller to adjust brightness, contrast and/or tone of the captured 2D image.

5. The method of claim 1 wherein step (b) includes allowing the game player operating the user-operable hand-held controller to add or change portions of the captured 2D image.

6. The method of claim 5 wherein step (b) includes allowing the game player operating the user-operable hand-held controller to modify the nose portion of a captured 2D facial image.

7. The method of claim 5 wherein step (b) includes allowing the game player operating the user-operable hand-held controller to modify the ear portion of a captured 2D facial image.

8. The method of claim 5 wherein step (b) includes allowing the game player operating the user-operable hand-held controller to modify the hair portion of a captured 2D facial image.

9. The method of claim 1 wherein step (a) includes automatically masking off all but a facial portion of a captured 2D image so that the facial portion can be selected in step (b) and stored in the at least one memory.

10. The method of claim 1 wherein step (c) includes converting the captured 2D image to texture data and step (d) includes using the home video game machine system 3D graphics coprocessor to utilize said texture data to texture a facial portion of the 3D video game character defined by polygon data stored in the at least one memory.

11. The method of claim 1 further comprising allowing the video game player to edit to a surface of the 3D video game character other than the predetermined surface by manipulation of the user operable hand-held controller.

12. The method of claim 1 wherein the video game player is allowed to edit the predetermined surface of the 3D video game character through operation of the user-operable hand-held controller after the color texture is texture mapped onto the predefined surface of the 3D video game character.

* * * * *

20/5,K/67 (Item 67 from file: 350) **Links**
Derwent WPIX

0009514845 *Drawing available*
WPI Acc no: 1999-458259/199938
XRPX Acc No: N1999-342795
Display system for game machine room
Patent Assignee: ACE DENKEN KK (ACED-N)
Inventor: TAKEMOTO T; TSURUMI M

Patent Family (6 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1999034888	A1	19990715	WO 1998JP72	A	19980112	199938	B
AU 199853433	A	19990726	AU 199853433	A	19980112	199952	E
			WO 1998JP72	A	19980112		
JP 2001190829	A	20010717	JP 2000201970	A	19980112	200162	NCE
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JP 2000527327	X	20020924	WO 1998JP72	A	19980112	200278	E
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JP 3577261	B2	20041013	JP 2000527327	A	19980112	200467	NCE
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JP 3577279	B2	20041013	WO 1998JP72	A	19980112	200467	E
			JP 2000527327	A	19980112		

Priority Applications (no., kind, date): JP 2000201970 A 20000704; JP 2000201970 A 19980112; WO 1998JP72 A 19980112

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1999034888	A1	JA	46	11		
National Designated States,Original	AU JP US					
AU 199853433	A	EN			PCT Application	WO 1998JP72
					Based on OPI patent	WO 1999034888
JP 2001190829	A	JA	13		Division of application	JP 2000527327
JP 2000527327	X	JA			PCT Application	WO 1998JP72
					Based on OPI patent	WO 1999034888
JP 3577261	B2	JA	18		Division of application	JP 2000527327
					Previously issued patent	JP 2001190829
JP 3577279	B2	JA	18		PCT Application	WO 1998JP72
					Based on OPI patent	WO 1999034888

Alerting Abstract WO A1
NOVELTY - A broadcasting control system (15) receives signals including video programs and generates video signals of each video program sequentially. A transmission system (9) transmits the generated video signals, and displays (4) corresponding to the game machines display the video signals.
USE - Display system for game machine room.
ADVANTAGE - Each display can display a **still picture** of an image displayed when a jackpot occurs in a corresponding game machine.
DESCRIPTION OF DRAWINGS - The drawing shows the display system.

Title Terms /Index Terms/Additional Words: DISPLAY; SYSTEM; GAME; MACHINE; ROOM

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-007/02			Main		"Version 7"
A63F-005/04			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: T05; W04; W05; P36
Manual Codes (EPI/S-X): **T05-H08C**; **W04-X02A8**; W05-D04A

Alerting Abstract ...ADVANTAGE - Each display can display a **still picture** of an image displayed when a jackpot occurs in a corresponding game machine... **Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-007/02** Main **A63F-005/04** Manual Codes (EPI/S-X): **T05-H08C**... ...:**W04-X02A8** Original Publication Data by Authority...**Original Abstracts:**video signals generated by the broadcasting control system (15) and a plurality of displays (4) which are disposed correspondingly to the game machines (2) and **display** the **video** signals transmitted from the transmission system. The display devices (4) are characterized in that they each have means (42) for displaying a **still picture** of an **image which** has been displayed when a jackpot occurs in the corresponding game machine corresponding to the devices... ... ...

世界知的所有権機関
国際事務局

PCT

特許協力条約に基づいて公開された国際出願

(51) 国際特許分類6
A63F 7/02, 5/04

A1

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(81) 指定国 AU, JP, US.

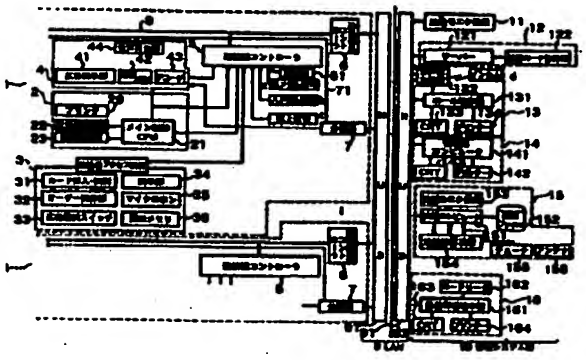
添付公開書類
国際調査報告書

(54)Title: DISPLAY SYSTEM IN GAME PARLOR

(54)発明の名称 遊技場表示システム

(57) Abstract

A display system used in a game parlor where a plurality of game machines (2) are disposed, comprising a broadcasting control system (15) which receives broadcasting signals including a plurality of video programs and generates video signals of each video program sequentially, a transmission system (9) which transmits the video signals generated by the broadcasting control system (15) and a plurality of displays (4) which are disposed correspondingly to the game machines (2) and display the video signals transmitted from the transmission system. The display devices (4) are characterized in that they each have means (42) for displaying a still picture of an image which has been displayed when a jackpot occurs in the corresponding game machine corresponding to the devices.



2...GAME PLAYER ACCESS DEVICE
5...GAME MACHINE CONTROLLER
6...GAME MACHINE BLOCK CONTROLLER
7...DISTRIBUTOR
15...CONTROL SYSTEM GROUP
11,153...BROADCASTING MONITOR
21...MAIN CONTROL CPU
22...CONTROLLER FOR DECORATIVE ILLUMINATION SECTION
23...MECHANISM CONTROLLER
29, 134...PRINTER
142, 194...PRINTER
31...INSERTION AND DISCRIMINATION OF CARD
32...ORDER OPERATION SECTION
33...ADVERTISEMENT SELECTING SWITCH
34...DISPLAY
35...MICROPHONE
38, 42...IMAGE MEMORY
41...ADVERTISEMENT DISPLAY SECTION
43...DECODER
44...SOUND REPRODUCING SECTION
51...INDICATOR LAMP
121...SERVER
122...CUSTOMER CARD REGISTER
131...PARLOR TERMINAL
132...SOUND OUTPUT DEVICE
141...COMPUTER FOR CONTROL
151...BROADCASTING COMPUTER
152...IMAGE FILE
154...BROADCASTING RECORDING REPRODUCING DEVICE
155...TUNER
156...ANTENNA
161...PRIZE CONTROL TERMINAL
162...CARD READER
a...PUT-OUT MEDAL SIGNAL
b...PUT-IN MEDAL SIGNAL
c...SALES SIGNAL
d...INCOME

20/5,K/68 (Item 68 from file: 350) **Links**
Derwent WPIX

0009488019 Drawing available
WPI Acc no: 1999-429904/199936
XRPX Acc No: N1999-320069
Display system for game parlour
Patent Assignee: ACE DENKEN KK (ACED-N)
Inventor: TAKEMOTO T; TSURUMI M

Patent Family (4 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1999029382	A1	19990617	WO 1997JP4535	A	19971210	199936	B
AU 199854101	A	19990628	WO 1997JP4535	A	19971210	199946	E
			AU 199854101	A	19971210		
JP 2000524048	X	20020910	WO 1997JP4535	A	19971210	200274	E
			JP 2000524048	A	19971210		
JP 3595262	B2	20041202	WO 1997JP4535	A	19971210	200480	E
			JP 2000524048	A	19971210		

Priority Applications (no., kind, date): WO 1997JP4535 A 19971210

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1999029382	A1	JA	40	9		
National Designated States,Original	AU JP US					
AU 199854101	A	EN			PCT Application	WO 1997JP4535
					Based on OPI patent	WO 1999029382
JP 2000524048	X	JA			PCT Application	WO 1997JP4535
					Based on OPI patent	WO 1999029382
JP 3595262	B2	JA	15		PCT Application	WO 1997JP4535
					Based on OPI patent	WO 1999029382

Alerting Abstract WO A1
NOVELTY - Display system comprises image control system which generates video signals of a number of video programs sequentially, a transmission system for the video signals and a number of displays placed corresponding to the individual game machines which display the video signals. When a jackpot is hit in a game machine, the corresponding display displays an image which has been displayed as an image when the jackpot is hit as a still picture.
USE - Display system in game parlour.

DESCRIPTION OF DRAWINGS - The figure shows the display system.
2 Game machines
15 Image control system
9 Transmission system
4 Displays

Title Terms /Index Terms/Additional Words: DISPLAY; SYSTEM; GAME; PARLOUR

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-007/02			Main		"Version 7"
A63F-005/04			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: T05; W04; P36
Manual Codes (EPI/S-X): **T05-H08C**; **W04-X02A3**; **W04-X02A8**; **W04-X02C**

...hit in a game machine, the corresponding display displays an image which has been displayed as an image when the jackpot is hit as a **still picture. Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-007/02** Main **A63F-005/04** Manual Codes (EPI/S-X): **T05-H08C**... ...**W04-X02A3**... ...**W04-X02A8**... ...**W04-X02C** Original Publication Data by Authority...**Original Abstracts:**signals generated by the image control system (15) and a plurality of displays (4) which are disposed corresponding to the individual game machines (2) respectively **and** display the **video** signals transmitted from the transmission system (9). The displays are characterized in that when a jackpot is hit in a game machine (2), the corresponding display displays an image which has been displayed when the jackpot is hit, as a **still picture.** ... ...

世界知的所有権機関
国際事務局

PCT

特許協力条約に基づいて公開された国際出願

(51) 国際特許分類6
A63F 7/02, 5/04

A1

(11) 国際公開番号 WO99/29382

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(81) 指定国 AU, JP, US.

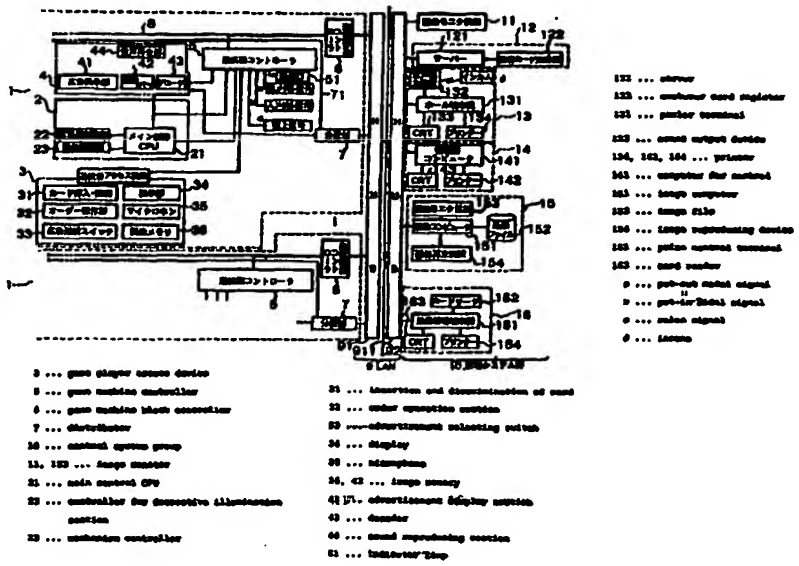
添付公開書類
国際調査報告書

(54)Title: DISPLAY SYSTEM IN GAME PARLOR AND DISPLAY USED THEREFOR

(54)発明の名称 遊技場表示システム、および、それに用いられる表示装置

(57) Abstract

A display system used in a game parlor where a plurality of game machines (2) are disposed, comprising an image control system (15) which generates video signals of a plurality of video programs sequentially, a transmission system (9) which transmits the video signals generated by the image control system (15) and a plurality of displays (4) which are disposed corresponding to the individual game machines (2) respectively and display the video signals transmitted from the transmission system (9). The displays are characterized in that when a jackpot is hit in a game machine (2), the corresponding display displays an image which has been displayed when the jackpot is hit, as a still picture.



20/5,K/120 (Item 120 from file: 350) **Links**
Derwent WPIX

0005945362 Drawing available
WPI Acc no: 1992-176888/199222
XRPX Acc No: N1992-133447
Mosaic picture display for games computers - mosaic data is held in external memory and fed to register which latches dot data during display of character
Patent Assignee: NINTENDO CO LTD (NINT); RICOH KK (RICO)
Inventor: MUKAI T; NICHIUMI S; NISHIUMI S; OTAKE M; SAIKAI S; TAKAHASHI T

Patent Family (9 patents, 7 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 487299	A2	19920527	EP 1991310644	A	19911119	199222	B
CA 2055724	A	19920520	CA 2055724	A	19911118	199232	E
JP 4185081	A	19920701	JP 1990315004	A	19901119	199233	E
EP 487299	A3	19930811	EP 1991310644	A	19911119	199507	E
US 5400052	A	19950321	US 1991793735	A	19911119	199517	E
			US 1993138448	A	19931020		
EP 487299	B1	19970108	EP 1991310644	A	19911119	199707	E
DE 69124077	E	19970220	DE 69124077	A	19911119	199713	E
			EP 1991310644	A	19911119		
CA 2055724	C	19970527	CA 2055724	A	19911118	199733	E
JP 3285860	B2	20020527	JP 1990315004	A	19901119	200241	E

Priority Applications (no., kind, date): JP 1990315004 A 19901119

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
EP 487299	A2	EN	30	23		
Regional Designated States,Original	DE FR GB SE					
CA 2055724	A	EN				
JP 4185081	A	JA	20			
EP 487299	A3	EN				
US 5400052	A	EN	27	23	Continuation of application	US 1991793735
EP 487299	B1	EN	33	23		
Regional Designated States,Original	DE FR GB SE					
DE 69124077	E	DE			Application	EP 1991310644
					Based on OPI patent	EP 487299
CA 2055724	C	EN				
JP 3285860	B2	JA	25		Previously issued patent	JP 04185081

Alerting Abstract EP A2

The **games computer** produces moving pictures on a still background formed from a series of mosaic elements of differing sizes. A microprocessor (2, 3, 4, 5) interfaces to the monitor (8) via a picture processing unit (1). This contains separate circuit to process the still and moving elements of the picture.

The mosaic data is held in **memory** (3), a control signal is generated based on the size of the mosaic character data which is serialised by passing it to a register. The register holds the dot data while the control signal manages its supply to the raster monitor.

USE/ADVANTAGE - Allows mosaic picture displays with only a limited increase in circuitry.

Title Terms /Index Terms/Additional Words: MOSAIC; PICTURE; DISPLAY; GAME; COMPUTER; DATA; HELD; EXTERNAL; **MEMORY**; FEED; REGISTER; LATCH; DOT; CHARACTER

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G09G-001/06; G09G-001/16; G09G-005/00; G09G-005/36; **H04N-005/262**			Main		"Version 7"
A63F-009/22; **A63F-009/24**			Secondary		"Version 7

US Classification, Issued: 345127000, 345141000

File Segment: EngPI; EPI;
DWPI Class: T04; W04; P36; P85
Manual Codes (EPI/S-X): **T04-H01B**; **W04-X02**

Mosaic picture display for games computers - ... ...mosaic data is held in external memory and fed to register which latches dot data during display of character ...Original Titles: Mosaic picture display apparatus and external **storage** unit used therefor... ...Mosaic picture display apparatus and external **storage** unit used therefor... ...Mosaic picture display and external **storage** unit used therefor **Alerting Abstract** ...The **games computer** produces moving pictures on a still background formed from a series of mosaic elements of differing sizes. A microprocessor (2, 3, 4, 5) interfaces to... ...The mosaic data is held in **memory** (3), a control signal is generated based on the size of the mosaic character data which is serialised by passing it to a register. The... **Equivalent Alerting Abstract** ...The mosaic picture display apparatus for mosaically displaying on a raster scan monitor a **still picture** containing an arrangement of a predetermined number of characters each made of a predetermined number of dots in combination, includes a picture processing unit and an external **storage** unit connected to it. Mosaic size data is programmed in the external **storage** unit... ...is generated for each mosaic having a mosaic size determined by the mosaic size data at timing of the start of it, a latch latches **still picture** character data outputted from a register. Therefore, each of dots in the mosaic is displayed by the same latched character data. Signal generating circuitry generates... ...USE/ADVANTAGE - Provides mosaic picture display appts. allowing picture processors as personal **computers** and **video game** machines to mosaically display **still pictures** on them, with no increase in **memory** capacity. **Title Terms** .../Index Terms/Additional Words: **MEMORY**; **Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date ...**H04N-005/262** Main **A63F-009/22**...

...**A63F-009/24** Manual Codes (EPI/S-X): **T04-H01B**... ...**W04-X02** Original Publication Data by Authority**Original Abstracts:** A mosaic picture display apparatus includes a picture processing unit and an external **storage unit** connected thereto. Mosaic size data is programmed in the external **storage unit**. In response to a control signal which is generated for each mosaic having a mosaic size determined by the mosaic size data at timing of the start thereof, a latch latches **still picture character** data outputted from a register. Therefore, each of dots in the mosaic is displayed by the same latched character data... ... A mosaic picture display apparatus includes a picture processing unit and an external **storage** unit connected **thereto**. Mosaic size data is programmed in the external **storage** unit. In **response** to a control signal which is generated for each mosaic having a mosaic size determined by the mosaic size data at timing of the start thereof, a latch latches **still picture** character **data outputted** from a register. Therefore, each of dots in the mosaic is displayed by the same latched character data. **Claims:** 1. A mosaic picture display apparatus for mosaically displaying on a raster scan monitor a **still picture containing an** arrangement of a predetermined number of characters each made of a predetermined number of dots in combination, said apparatus comprising: first **storing** means for **storing** character data **of** said characters; reading means for reading said character data from said first **storing** means; register means **for** converting to bit serial data said character data which is read by said reading means; first mosaic size data outputting means for outputting horizontal mosaic... ... 1. A mosaic picture display apparatus for mosaically displaying on a raster scan monitor (8) a **still picture** containing an arrangement of a predetermined number of characters each made of a predetermined number of dots in combination, said apparatus comprising: **first storing** means (7a) for **storing** character data of said characters; reading means (19) for periodically reading-out said character data from said first **storing** means (7a) in association with **a** clock signal (5M) which is generated for displaying dots in a horizontal direction on said raster scan monitor (8); **register** means (91) for converting to bit serial data said character data which is read by the reading means; characterised by comprising first mosaic size dataA mosaic picture display apparatus for mosaically displaying on a raster scan monitor **a still picture** containing an arrangement of a predetermined number of characters each made of a predetermined number of dots in combination, said apparatus comprising: a first **storing** device for **storing** character data of said characters; **reading circuitry** for periodically reading-out said character data from said first **storing** device in association with a clock signal which is generated for displaying dots **in** a horizontal **direction** on said raster scan monitor; a format converter for converting to bit serial data said character data **which** is read by said reading circuitry; first mosaic size data outputting circuitry for designating a period during which said bit serial character data outputted by... ... ...

US005400052A

United States Patent [19]

Otake et al.

[11] Patent Number: 5,400,052

[45] Date of Patent: Mar. 21, 1995

[54] MOSAIC PICTURE DISPLAY AND EXTERNAL STORAGE UNIT USED THEREFOR

[75] Inventors: Masahiro Otake, Kyoto; Toyofumi Takahashi, Tokyo; Satoshi Nishiumi, Kyoto; Takao Maikai, Tokyo, all of Japan

[73] Assignees: Nintendo Co., Ltd., Kyoto; Ricoh Co., Ltd., Tokyo, both of Japan

[21] Appl. No.: 138,448

[22] Filed: Oct. 20, 1993

Related U.S. Application Data

[63] Continuation of Ser. No. 793,735, Nov. 19, 1991, abandoned.

[30] Foreign Application Priority Data

Nov. 19, 1990 [JP] Japan 2-315004

[51] Int. Cl.6 ..... G09G 1/06

[52] U.S. Cl. 345/127; 345/141

[58] Field of Search 345/1114, 118, 121, 123, 345/1116, 141, 127; 358/222, 182, 183; 348/578, 581

[56] References Cited

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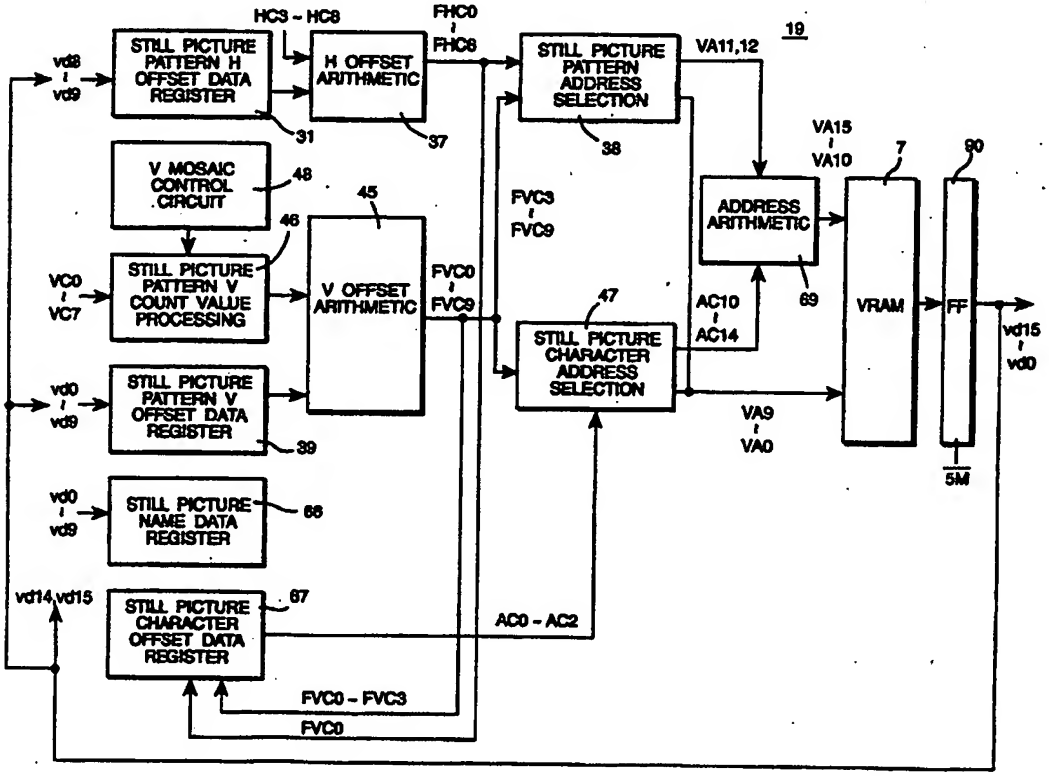
0056207 12/1981 European Pat. Off. .

Primary Examiner—Ulysses Weldon
Assistant Examiner—Regina Liang
Attorney, Agent, or Firm—Nixon & Vanderhye

[57] ABSTRACT

A mosaic picture display apparatus includes a picture processing unit and an external storage unit connected thereto. Mosaic size data is programmed in the external storage unit. In response to a control signal which is generated for each mosaic having a mosaic size determined by the mosaic size data at timing of the start thereof, a latch latches still picture character data outputted from a register. Therefore, each of dots in the mosaic is displayed by the same latched character data.

7 Claims, 17 Drawing Sheets



signals M2S0 and M2S1 from the still picture address control timing signal generation circuit 30. The result is outputted as data AC3-AC14. Data AC10-AC14 is fed to the address arithmetic circuit 69, while data AC-3-AC9 is supplied along with the above data AC-0-AC2 as the address VA0-VA9 of the VRAM 7. The address arithmetic circuit 69 adds the data AC10-AC14 and the value from the name base address registers. The result is outputted as the address VA10—VA15 of the VRAM 7. Thus the dot data about the still picture character in question is read from the VRAM 7.

The P-S converter 91 outputs the above character dot data as bit serial dot data in response to a conversion timing signal from the character offset timing generation circuit 92.

With this embodiment, simply setting offset data to the offset data table and having the CPU supply initial offset data readily scrolls still picture characters in the vertical direction inside horizontally divided monitor screen parts, as shown in FIG. 22. Needless to say, the embodiment also permits horizontal scroll in a vertically divided screen part as depicted in FIG. 21. Where the horizontal and vertical scroll features are combined, more versatile scroll operations are available.

Below is a description of how a mosaic picture is displayed. As described earlier, the vertical mosaic control circuit 48 has its four-bit counter 49 (FIG. 14) output a carry signal depending on the mosaic size data. The latch 49 latches the low-order eight bits vc0-vc7 of the vertical position data during the period corresponding to the line count designated by the vertical mosaic size data. During the same period, the data vc0-vc7 fed to the still picture pattern vertical count value processing circuit 46 is outputted unchanged. As described, the data vc0-vc7 is processed by the vertical offset operation circuit 45 and by the still picture character address selection circuit 47 before being supplied as the vertical address VA0-VA9 to the character RAM 7a in the VRAM 7. It follows that the vertical address VA0—VA9 becomes the same for each mosaic designated by the vertical mosaic size. Thus throughout one mosaic, dot data (graphic data) is read from the same vertical address in the character RAM 7a. That is, the dot data on the first line of each mosaic is read from the character RAM 7a over a plurality of vertical lines (designated by the vertical mosaic size data). In this manner, a vertical mosaic display is accomplished.

In the horizontal mosaic control circuit 93, the horizontal mosaic size data inverted by the NOT circuit 103 is preset to the four-bit counter 108. The four-bit counter 108 is incremented at every dot (i.e., every timing signal 5M) on the screen of the raster scan monitor 8. Thus the four-bit counter 108 outputs a carry signal at the leftmost dot of each mosaic defined by the horizontal mosaic size. In response, the AND gate 112 provides a "1" on every timing signal 5M. This output is sent to the inputs on the one side of the OR gates 104 through 107.

Meanwhile, the bits constituting the mosaic enable data from the NOT circuit 103 are fed to the inputs on the other side of the OR gates 104 through 107. This causes the corresponding NAND gate among 98 through 101 to output a latch signal at the beginning of each mosaic designated by the mosaic size data for the still picture cell enabled for mosaic display. As a result, the corresponding latch among 94 through 97 latches the dot data. This state persists until the end of each mosaic. Thus the dots constituting each mosaic provide a display of the same picture as is defined by the dot data at the beginning of the mosaic. In this manner, a horizontal mosaic display is achieved.

FIG. 23 shows a typical mosaic picture in effect when the mosaic size data is set to "0010" in the first mode. In the processes described, the dots of each mosaic represent a display with the same color data as for the encircled bottom left dot in the figure.

In addition, a memory cartridge incorporating a semiconductor memory is used as an external storage unit in the above described embodiments; however, it is possible to use an external storage unit such as a CD-ROM in the present invention. In a case of use of the memory cartridge, the program data including the character data of the moving picture characters and the still picture characters and the aforementioned mosaic size data are stored in the semiconductor memory, and the CPU 2 generates control data for the moving picture characters and the still (background) picture characters on the basis of the program data read from the semiconductor memory and outputs the same to the components of the picture processing unit 1.

In contrast, in a case of use of the CD-ROM, the above described program data including the mosaic size data are optically recorded as digital data in the CD-ROM (not shown). In addition, an optical reader for optically reading recorded date on the CD-ROM is connected to a suitable connector such as a expansion connector. Even if the CD-ROM is used as the external storage unit, a memory cartridge is also used. In this case, the memory cartridge is comprised with a ROM (not shown) that stores a starting program for controlling an operation of the optical reader, a buffer RAM (not shown) for temporarily storing the data read from the CD-ROM, and etc. Then, prior to a start of a display operation, the CPU 2 applies control data to the optical reader on the basis of the starting program of the ROM to cause the optical reader to read the recorded data of the CD-ROM. A portion of the character data read from the CD-ROM is transferred to the character RAM and the program data is transferred to the buffer RAM included in the memory cartridge. The CPU 2 controls the components of the picture processing unit 1 on the basis of the program data stored in the buffer RAM. That is, after the data read from the CD-ROM by the optical reader has been transferred to the respective memories, the CPU 2 and the picture processing unit 1 execute the display operation by accessing the respective memories as done in the previous embodiments.

Although the present invention has been described and illustrated in detail, it is clearly understood that the same is by way of illustration and example only and is not to be taken by way of limitation, the spirit and scope of the present invention being limited only by the terms of the appended claims.

What is claimed is:

1. A mosaic picture display apparatus for mosaically displaying on a raster scan monitor a still picture containing an arrangement of a predetermined number of characters each made of a predetermined number of dots in combination, said apparatus comprising:

a first storing device for storing character data of said characters;

reading circuitry for periodically reading out said character data from said first storing device in association with a clock signal which is generated

for displaying dots in a horizontal direction on said raster scan monitor;

a format converter for converting to bit serial data said character data which is read by said reading circuitry;

first mosaic size data outputting circuitry for designating a period during which said bit serial character data outputted by said format converter is to be held by outputting horizontal mosaic size data corresponding to the number of dots in the horizontal direction to be mosaically displayed on a screen of said raster scan monitor;

control signal generating circuits for receiving said horizontal mosaic size data and for controlling a period during which said bit serial character data outputted by said format converter is held by outputting, in accordance with said horizontal mosaic size data, a control signal indicative of a starting end dot data in the horizontal direction of each mosaic at every timing when said raster scan monitor is scanned by the dots whose number in the horizontal direction corresponds to said horizontal mosaic size data;

holding circuits for temporarily holding only the starting end dot data of the bit serial character data outputted from said format converter in response to said control signal and continuously outputting said starting end dot data until a succeeding control signal is applied thereto from said control signal generating circuits; and

signal generating circuitry for generating a video signal in accordance with only said starting end dot data from said holding circuits and supplying said raster scan monitor with said video signal.

2. A mosaic picture display apparatus according to claim 1, wherein said control signal generating circuits include a first counter for changing a count value thereon for each dot on said screen of said raster scan monitor.

3. A mosaic picture display apparatus according to claim 1, further comprising second mosaic size data outputting circuitry for outputting vertical mosaic size data corresponding to the number of dots in the vertical direction to be mosaically displayed on said screen of said raster scan monitor;

wherein said reading circuitry includes addressing circuits for designating for each mosaic an address in said first storing device in accordance with said vertical mosaic size data, said address corresponding to the start of said mosaic in said vertical direction.

4. A mosaic picture display apparatus according to claim 3, wherein said addressing circuits includes a second counter for changing a count value thereon for each line on said raster scan monitor.

5. A mosaic picture display apparatus according to claim 1, further comprising a second storing device for storing a character code of each of the characters constituting said still picture;

wherein said first storing device stores graphic data designated by the character code which is read from said second storing device.

6. An external storage unit used for a mosaic picture display apparatus which mosaically displays on a raster scan monitor a still picture containing an arrangement of a predetermined number of characters each made of a predetermined number of dots, said external storage unit comprising:

first storing means for storing character data of said characters; and

first mosaic size data outputting means for designating a period during which bit serial character data outputted by a register means of said mosaic picture display apparatus is to be held by outputting horizontal mosaic size data corresponding to the number of dots in the horizontal direction to be mosaically displayed on a screen of said raster scan monitor;

said mosaic display apparatus including reading means for periodically reading out said character data from said first storing means in association with a clock signal which is generated for displaying dots in a horizontal direction on said raster scan monitor; said register means converting to bit serial data said character data which is read by said reading means; control signal generating means for receiving said horizontal mosaic size data and for controlling a period during which said bit serial character data outputted by said register means is held by outputting, in accordance with said horizontal mosaic size data read from said external storage unit, a control signal indicative of a starting end dot data in the horizontal direction of each mosaic at every timing when said raster scan monitor is scanned by the dots whose number in the horizontal direction corresponds to said horizontal mosaic size data;

holding means for temporarily holding only the starting end dot data of the bit serial character data outputted from said register means in response to said control signal and continuously outputting said starting end dot data until a succeeding control signal is applied thereto from said control means; and means for generating a video signal in accordance with only said starting end dot data from said holding means and supplying said raster scan monitor with said video signal.

7. An external storage unit according to claim 6, further comprising second mosaic size data outputting means for outputting vertical mosaic size data corresponding to the number of dots in the vertical direction to be mosaically displayed on said screen of said raster scan monitor;

wherein said reading means includes addressing means for designating for each mosaic an address in said first storing means in accordance with said vertical mosaic size data, said address corresponding to the start of said mosaic in said vertical direction.

* * * * *

20/5,K/121 (Item 121 from file: 350) **Links**
Derwent WPIX

0005847809 Drawing available
WPI Acc no: 1992-073859/199210
XRPX Acc No: N1992-055557
Still picture display e.g. for PC or video game machine - scrolls still picture background character-composed images in picture processor
Patent Assignee: NINTENDO CO LTD (NINT); RICOH KK (RICO)
Inventor: MUKAI T; NISHIUMI S; OTAKE M; TAKAHASHI T

Patent Family (11 patents, 6 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 473391	A	19920304	EP 1991307823	A	19910827	199210	B
CA 2049899	A	19920228	CA 2049899	A	19910826	199220	E
EP 473391	A3	19921223	EP 1991307823	A	19910827	199344	E
US 5337069	A	19940809	US 1991749533	A	19910826	199431	E
			US 1993152928	A	19931116		
US 5495266	A	19960227	US 1991749533	A	19910826	199614	E
			US 1993152928	A	19931116		
			US 1994276475	A	19940718		
CA 2049899	C	19980630	CA 2049899	A	19910826	199837	E
EP 473391	B1	19990203	EP 1991307823	A	19910827	199910	E
DE 69130848	E	19990318	DE 69130848	A	19910827	199917	E
			EP 1991307823	A	19910827		
KR 222314	B1	19991001	KR 199114901	A	19910827	200108	E
JP 3274682	B	20020415	JP 1990225672	A	19900827	200233	E
JP 3274682	B2	20020415	JP 1990225672	A	19900827	200233	E

Priority Applications (no., kind, date): JP 1990225672 A 19900827

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
EP 473391	A	EN				
Regional Designated States,Original	DE FR GB SE					
CA 2049899	A	EN				
EP 473391	A3	EN				
US 5337069	A	EN	23	19	Continuation of application	US 1991749533
US 5495266	A	EN	22	19	Continuation of application	US 1991749533
					Continuation of application	US 1993152928
					Continuation of patent	US 5337069

CA 2049899	C	EN				
EP 473391	B1	EN				
Regional Designated States,Original	DE FR GB SE					
DE 69130848	E	DE			Application	EP 1991307823
					Based on OPI patent	EP 473391
JP 3274682	B	JA	20		Previously issued patent	JP 04106593
JP 3274682	B2	JA	20		Previously issued patent	JP 04106593

Alerting Abstract EP A
The apparatus displays a **still picture** in which characters are each composed of a combination of a predetermined number of dots on a raster scan monitor in accordance with character data and program data both **stored** in an external **storage** device in advance. Offset data of a horizontal and vertical direction, corresponding to each character, is **stored** in an offset table formed in the external **storage** device.
A picture processing unit determines an address on the basis of the offset data and either the horizontal or vertical position, and reads video data from a video data **memory** according to the address to apply to the raster scan monitor.
ADVANTAGE - Allows scrolling to be performed in portion of monitor screen divided in horizontal direction.
@(24pp Dwg.No.1/19)@

Title Terms /Index Terms/Additional Words: STILL; PICTURE; DISPLAY; VIDEO; GAME; MACHINE; SCROLL; BACKGROUND; CHARACTER; COMPOSE; IMAGE; PROCESSOR

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
G06F-003/14; G09G-001/16; G09G-005/34; **H04N-005/262**; **H04N-005/44**			Main		"Version 7"
A63F-009/22; **G06F-015/62**; G06T-003/20; **H04N-005/26**; **H04N-005/272**			Secondary		"Version 7

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File Segment: EngPI; EPI;
DWPI Class: T01; W04; P36; P85
Manual Codes (EPI/S-X): **T01-J12B**; **T01-P02**; **W04-N05C1**; **W04-X02C**

Still picture display e.g. for PC or video game machine... ...scrolls still picture background character-composed images in picture processor ...Original Titles:Still picture display apparatus and external **storage** device used therein... ...**Still picture** display apparatus and external **storage** device used therein **Alerting Abstract** ...The apparatus displays a **still picture** in which characters are each composed of a combination of a

predetermined number of dots on a raster scan monitor in accordance with character data and program data both **stored** in an external **storage** device in advance. Offset data of a horizontal and vertical direction, corresponding to each character, is **stored** in an offset table formed in the external **storage** device... ...determines an address on the basis of the offset data and either the horizontal or vertical position, and reads video data from a video data **memory** according to the address to apply to the raster scan monitor ... **Equivalent Alerting Abstract** ...Offset data of at least one of a horizontal direction and a vertical direction corresponding to each character is **stored** in an offset table formed in the external **storage** device. A picture processing unit determines an address on the basis of the offset data and at least one of a horizontal position and a... ...It reads video data from a video data **memory** according to the address to apply to the raster scan monitor. **Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **G06F-003/14**... ...**H04N-005/262**... ...**H04N-005/44** Main **A63F-009/22**... ...**G06F-015/62**... ...**H04N-005/26**... ...**H04N-005/272** Manual Codes (EPI/S-X): **T01-J12B**... ...**T01-P02**... ...**W04-N05C1**... ...**W04-X02C** Original Publication Data by Authority**Original Abstracts:**A **still picture** display apparatus **displays a still picture** in which **characters each** composed of combination of a predetermined number of dots on a raster scan monitor (8) in accordance with character data and program data both **stored** in an external **storage** device (3) in **advance**. Offset data of at least one of a horizontal direction and a vertical direction correspondingly to each character is **stored** in an offset **table** formed in the external **storage** device. A picture **processing** unit (1) determines an address on the basis of the offset data and at least one of a horizontal position and a vertical position, and reads video data from a video data **memory** (7) according to **the** address to apply to the raster scan monitor... ... A **still picture** display apparatus displays a **still picture** in **which characters** each composed of combination **of a** predetermined number of dots on a raster scan monitor in accordance with character data and program data both **stored** in an external **storage** device in advance. Offset **data** of at least **one** of a horizontal direction and a vertical direction correspondingly to each character is **stored** in an offset table formed in the external **storage** device. A picture processing unit determines an address **on** the basis of the offset data and at least one of a horizontal position and a vertical position, and reads video data from a video data **memory** according to the address to apply to the **raster** scan monitor... ... A **still picture** display apparatus displays a **still picture** in which characters each composed of **combination of** a predetermined number of **dots on** a raster scan monitor in accordance with character data and program data both **stored** in an external **storage** device in advance. Offset data of at least one **of** a horizontal direction **and** a vertical direction correspondingly to each character is **stored** in an offset table formed in the external **storage** device. A picture processing **unit** determines an address on the basis of the **offset** data and at least one of a horizontal position and a vertical position, and reads video data from a video data **memory** according to the address to apply to the raster scan monitor. **Claims:**1. A **still picture display apparatus** which displays **still pictures containing an** arrangement of a predetermined number of characters each constituted by a combination of a predetermined number of dots on a raster scan monitor, said **still picture display apparatus** comprising: first **storage** means for **storing** character data **of** the characters; second **storage** means for **storing offset** data in **at** least one of a horizontal direction and a vertical direction correspondingly to the characters displayed on at least one line in the horizontal direction; first read means for reading the offset data corresponding to the characters of said first **storage** means from said second **storage** means when the characters **are** displayed; and second read means for reading the character data from said first **storage** means based on the offset **data** of the characters read by said first read means and a horizontal position and a vertical position on said raster scan monitor to apply the... ... The apparatus displays a **still picture** in which characters are each composed **of a** combination of a predetermined number of dots on a raster scan monitor in accordance with character data and program data both **stored** in an external **storage** device in advance. **Offset** data of a **horizontal** and vertical direction, corresponding to each character, is **stored** in an offset table formed in the **external storage** device.... ... determines an address on the basis of the offset data and either the horizontal or vertical position, and reads video data from a video data **memory** according to the address to apply to **the** raster scan monitor... ... 1. **Still picture** display apparatus which is arranged to scroll in the vertical and/or horizontal direction **still pictures** in accordance with **horizontal and**/or vertical

address offset data, said still pictures each comprising a plurality of characters, each character being constituted by a predetermined number of pixels, and the apparatus being arranged to display the pictures in raster fashion on a screen (8), the apparatus comprising first storage means (7) storing character data; second storage means (7,31,37) arranged to store offset data comprising a plurality of horizontal and vertical offset values each of the horizontal and vertical offset values corresponding to a respective character and the second storage means further being arranged to store a number of the horizontal and vertical offset values which corresponds to the number of characters capable of being displayed along one horizontal line of the screen (8) offset data write means (2) for writing offset data into the memory (7); offset data changing means (2) operable to change the horizontal and/or vertical offset data at each frame of the raster scan; first read means (36) for reading the offset data from said readable/writable memory at a time when the screen is scanned, counting means (26) for generating horizontal and vertical count data (HCO-HC9,VCO-VC7) representing a scan position on said screen; and second read means (35,41,49)for generating a read address using the horizontal and vertical count data and the offset data by adding said offset data to said horizontal and vertical count data, for reading the character data from a location in the first storage means (7) identified by the generated and offset read address, and for displaying the character data read from the first storage means (7) at the horizontal and/or vertical scan position on said screen whereby the still picture being scrolled in the horizontal and/or vertical direction can be displayed at a predetermined position on said screen. A still picture display apparatus which displays still pictures containing an arrangement of a predetermined number of characters each constituted by a combination of a predetermined number of dots on a screen of a raster scan monitor, said still picture display apparatus comprising: first storage means for storing character data of the characters; second storage means for storing a plurality of vertical offset data per one horizontal line, each of said plurality of vertical offset data being a vertical offset amount in each of a plurality of horizontally divided portions of said screen of said raster scan monitor; first read means for reading one of said plurality of vertical offset data every time a corresponding one of said plurality of horizontally divided portions of said screen to be scanned; second read means for reading the character data from said first storage means based on one of the vertical offset data read by said first read means and a horizontal position and a vertical position on said raster scan monitor to apply the same to said raster scan monitor, wherein said second storage means includes a readable/writable memory, and said apparatus further comprising vertical offset data write means for writing the vertical offset data corresponding to each character into said memory, and wherein said vertical offset data write means includes vertical offset data changing means for changing and writing the vertical offset data per each frame of said raster scan monitor, so that a vertical scrolling is performed in at least one of said plurality of horizontally divided portions of said screen of said raster scan monitor... ... An external storage device used in association with a still picture display apparatus which displays a still picture containing an arrangement of a predetermined number of characters, each character being constituted by a combination of a predetermined number of dots on a screen of a raster scan monitor, said external
storage device comprising: a storage device storing character data of the characters; and a random access storage device storing a plurality of vertical offset data and a plurality of horizontal offset data per one horizontal line, each of said plurality of vertical offset data and each of said horizontal offset data being a vertical offset amount and a horizontal offset amount, respectively, in each of a plurality of horizontally divided portions of said screen of the raster scan monitor; said still picture display apparatus including a counting device for producing data representing a horizontal position and a vertical position on the raster scan monitor; first read circuits for reading one of the plurality of vertical offset data and one of the plurality of horizontal offset data when a corresponding one of said plurality of horizontally divided portions of said screen is to be scanned; and second read circuits for reading the character data from said first storage means, based on the vertical offset data and the horizontal offset data read by said first read circuits and a horizontal position and a vertical position on said raster scan monitor from the counting device to apply the character data to said raster scan monitor, wherein said random access storage device includes a readable/writable memory, and said apparatus further comprising vertical offset data write circuits for writing the

vertical offset data corresponding to each character into said **memory**, and horizontal offset data write circuits **for** writing the horizontal offset data **into** said **memory**, and wherein said vertical offset data write circuits include vertical offset data changing circuits for changing and writing the vertical **offset** data per each frame of said raster scan monitor, so that a vertical scrolling **is** performed in at least one of said plurality of horizontally divided portions of said screen of said raster scan monitor.... ...

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United States Patent [19]

Otake et al.

[11] Patent Number: 5,337,069

[45] Date of Patent: Aug. 9, 1994

[54] STILL PICTURE DISPLAY APPARATUS AND EXTERNAL STORAGE DEVICE USED THEREIN

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Related U.S. Application Data

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[30] Foreign Application Priority Data

Aug. 27, 1990 [JP] Japan 2-225672

[51] Int. Cl.[5] G09G 1/16

[52] U.S. Cl. 345/123; 345/192

[58] Field of Search 364/410; 345/123, 127, 345/119, 192, 121, 126, 26-28

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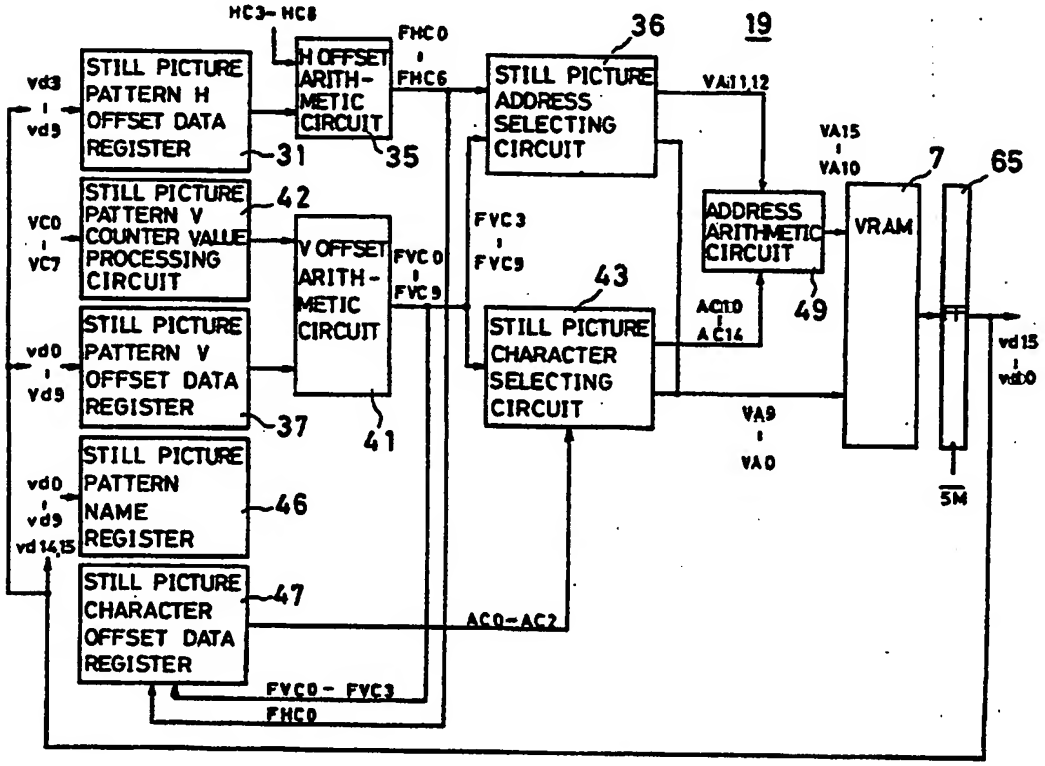
Primary Examiner—Ulysses Weldon
Assistant Examiner—Gin Goon
Attorney, Agent, or Firm—Nixon & Vanderhye

[57] ABSTRACT

A still picture display apparatus displays a still picture in which characters each composed of combination of a predetermined number of dots on a raster scan monitor in accordance with character data and program data both stored in an external storage device in advance. Offset data of at least one of a horizontal direction and a vertical direction correspondingly to each character is stored in an offset table formed in the external storage device. A picture processing unit determines an address on the basis of the offset data and at least one of a horizontal position and a vertical position, and reads video data from a video data memory according to the address to apply to the raster scan monitor.

7 Claims, 14 Drawing Sheets



offset data table is formed on the ROM and a plurality of offset data tables corresponding to respective conditions are used, it may only chose which offset data table should be used.

In addition, a memory cartridge incorporating a semiconductor memory is used as an external storage device in the above described embodiments; however, it is possible to use an external storage device such as a CD-ROM in the present invention. In a case of use of the memory cartridge, the program data including the character data, color data, priority data and etc. and the offset table that are stored in the semiconductor memory as described above, and the CPU 2 generates control data for the moving picture characters and the still (background) picture characters on the basis of the program data read from the semiconductor memory and outputs the same to the picture processing unit 1.

In contrast, in a case of use of the CD-ROM, the above described program data and offset table are optically recorded as digital data in the CD-ROM (not shown). In addition, an optical reader for optically reading recorded date on the CD-ROM is connected to a suitable connector such as a expansion connector. When the CD-ROM is used as the external storage device, a memory cartridge is also used. In this case, the memory cartridge is comprised with a ROM (not shown) that stores a starting program for controlling an operation of the optical reader, a buffer RAM (not shown) for temporarily storing the program data read from the CD-ROM, and etc. Then, prior to a start of a display operation, the CPU 2 applies control data to the optical reader on the basis of the starting program of the ROM to cause the optical reader read the recorded data of the CD-ROM. A portion of the character data read from the CD-ROM is transferred to the character RAM and the program data is transferred to the buffer RAM included in the memory cartridge. The CPU 2 controls the picture processing unit 1 on the basis of the program data stored in the buffer RAM. That is, after the data read from the CD-ROM by the optical reader has been transferred to the respective memories, the CPU 2 and the picture processing unit 1 execute the display operation by accessing the respective memories as done in the previous embodiments.

Although the present invention has been described and illustrated in detail, it is clearly understood that the same is by way of illustration and example only and is not to be taken by way of limitation, the spirit and scope of the present invention being limited only by the terms of the appended claims.

What is claimed is:

1. A still picture display apparatus which displays still pictures containing an arrangement of a predetermined number of characters each constituted by a combination of a predetermined number of dots on a screen of a raster scan monitor, said still picture display apparatus comprising:

first storage means for storing character data of the characters;

second storage means for storing a plurality of vertical offset data per one horizontal line, each of said plurality of vertical offset data being a vertical offset amount in each of a plurality of horizontally divided portions of said screen of said raster scan monitor;

first read means for reading one of said plurality of vertical offset data every time a corresponding one of said plurality of horizontally divided portions of said screen to be scanned;

second read means for reading the character data from said first storage means based on one of the vertical offset data read by said first read means and a horizontal position and a vertical position on said raster scan monitor to apply the same to said raster scan monitor,

wherein said second storage means includes a readable/writable memory, and said apparatus further comprising vertical offset data write means for writing the vertical offset data corresponding to each character into said memory, and

wherein said vertical offset data write means includes vertical offset data changing means for changing and writing the vertical offset data per each frame of said raster scan monitor, so that a vertical scrolling is performed in at least one of said plurality of horizontally divided portions of said screen of said raster scan monitor.

2. A still picture display device as set forth in claim 1, wherein said second storage means includes vertical offset data storage domains for storing the vertical offset data corresponding to the characters per each horizontal line, and said apparatus further comprising first domain designating means for designating the vertical offset data storage domains corresponding to an arbitrary horizontal line, said first read means reading one of the vertical offset data corresponding to the characters in a horizontal line designated by said first domain designating means.

3. A still picture display apparatus as set forth in claim 2, wherein said first domain designating means includes means for designating the vertical offset data storage domains contained in said seconds storage means corresponding to one desired horizontal line and for changing the vertical offset data storage domains corresponding to the horizontal line per each frame, so that a vertical scroll is performed in at least one of said horizontally divided portions of said screen.

4. A still picture display apparatus as set forth in claim 2, wherein said second storage data includes horizontally offset data storage domains for storing horizontal offset data corresponding to the characters per each horizontal line and second domain designating means for designating the horizontal offset data storage domains corresponding to an arbitrary horizontal line and said first read means reads the horizontal offset data corresponding to the characters in a horizontal line designated by said second domain designating means, and

wherein said second domain designating means includes means for designating the horizontal offset data storage domains contained in said second storage means corresponding to one desired horizontal line and for changing the horizontal offset data storage domains corresponding to the horizontal line per each horizontal line, so that a horizontal scroll is performadd in at least one of said horizontally divided portions of said screen.

5. A still picture display apparatus as set forth in claim 1, wherein said second storage means stores a plurality of horizontal offset data, each of said horizontal offset data being a horizontal offset amount in each of a plurality of horizontally divided portions of said screen and said first reading means reading said horizontal offset data every time a corresponding one of said plurality of horizontally divided portions of said screen is to be

scanned, said second read means reading the horizontal offset data read by the first read means, and a horizontal and a vertical position on said raster scan monitor to apply the same to said raster scan monitor, said apparatus including horizontal offset data write means for writing the horizontal offset data into said readable/-writable memory, and

wherein said horizontal offset data write means includes horizontal offset data changing means for changing and writing the horizontal offset data per each horizontal line, so that a horizontal scrolling is performed in at least one of said plurality of horizontally divided portions of said screen of said raster scan monitor.

6. An external storage device used in association with a still picture display apparatus which displays still picture containing an arrangement of a predetermined number of characters being constituted by a combination of a predetermined number of dots, said external storage device comprising:

first storage means for storing character data of the characters; and

second storage means for storing a plurality of vertical offset data per one horizontal line, each of said plurality of vertical offset data being a vertical offset amount in each of a plurality of horizontally divided portions of said screen of said raster scan monitor;

said still picture display apparatus including

first read means for reading one of said plurality of vertical offset data every time a corresponding one of said plurality of horizontally divided portions of said screen to be scanned; and

second read means for reading the character data from said first storage means based on one of the vertical offset data read by said first read means and a horizontal position and a vertical position on said raster scan monitor to apply the same to said raster scan monitor,

wherein said second storage means includes a readable/writable memory, and said apparatus further comprising vertical offset data write means for writing the vertical offset data corresponding to each character into said memory, and

wherein said vertical offset data write means includes vertical offset data changing means for changing and writing the vertical offset data per each frame of said raster scan monitor, so that a vertical scrolling is performed in at least one of said plurality of horizontally divided portions of said screen of said raster scan monitor.

7. An external storage device as set forth in claim 6, wherein said second storage means includes vertical offset data storage domains for storing the vertical offset data corresponding to the characters per each horizontal line, and said apparatus further comprising first domain designating means for designating the vertical offset data storage domains corresponding to an arbitrary horizontal line, said first read means reading one of the vertical offset data corresponding to the characters in a horizontal line designated by said first domain designating means.

* * * * *

20/5,K/128 (Item 128 from file: 350) **Links**
Derwent WPIX

0003074430
WPI Acc no: 1984-166101/198427
Video game, combining two pictures on screen - has still and moving image pattern generators controlled by central processing unit
Patent Assignee: NINTENDO CO LTD (NINT); RICOH KK (RICO)
Inventor: UEDA H; YAGI H

Patent Family (18 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
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Patent Details

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					Continuation of application	US 1990343783
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					Continuation of application	US 1992901030
					Continuation of patent	US 4824106
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					Continuation of patent	US 5308086

Alerting Abstract DE A

The **video game** uses a moving picture pattern generator and a **still picture** pattern generator, with a central processing device controlled by the operator. An image processor is then used to combine the still and moving pictures.

A **memory** is used with the image processor to **store** information from an attribute table for use for the next successive picture during the horizontal image or blanking out period. An intermediate **memory** is used to **store**

information relating to the moving picture and shown in the next line of the picture, while the other **memory** scans a moving line.

Title Terms /Index Terms/Additional Words: VIDEO; GAME; COMBINATION; TWO; PICTURE; SCREEN; STILL; MOVE; IMAGE; PATTERN; GENERATOR; CONTROL; CENTRAL; PROCESS; UNIT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-009/22; **A63F-009/24**; G09G-001/16			Main		"Version 7"
G06F-015/44; **G06F-003/15**; G09G-001/28; **H04N-005/22**; **H04N-005/262**; **H04N-007/18**; **H04N-009/53**; **H04N-009/64**; **H04N-009/76**			Secondary		"Version 7

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File Segment: EngPI; EPI;
DWPI Class: T04; W04; P36; P85
Manual Codes (EPI/S-X): **T04-H01**; **W04-X02C**

Video game, combining two pictures on screen... ...**Original Titles:**T.V. game system having reduced **memory** needs... ...T.V. game system having reduced **memory** needs... ...**Video game** external **memory** arrangement with reduced **memory** requirements... ...**Video game** system having reduced **memory** needs for a raster scanned display. **Alerting Abstract** ...The **video game** uses a moving picture pattern generator and a **still picture** pattern generator, with a central processing device controlled by the operator. An image processor is then used to combine the still and moving pictures... ...A **memory** is used with the image processor to **store** information from an attribute table for use for the next successive picture during the horizontal image or blanking out period. An intermediate **memory** is used to **store** information relating to the moving picture and shown in the next line of the picture, while the other **memory** scans a moving line. **Equivalent Alerting Abstract** ...A **memory** (12-2) holds a table of attributes associated with moving images. The image processor (11) contains also a second **storage** unit in the form of an intermediate **RAM buffer** (15) where, from a single moving image, the data fro a single scanning line are written into. A third **storage** device (16) receives consecutively all the line data that enter the attribute data and other **storage** data of the aforementioned single line **buffer** (15... ...A synthesizer unit (17) links an output signal from the **storage buffer** (16) to an output signal from the static pattern or background generator (12--3), or with that coming from an external circuit in order to create a special signal expressing the interaction of two or more input signals, in accordance with definite, preset rules or conditions. A video **storing** unit (12) including a picture pattern generator (12-1), a station image symbol generator (12-3), various tables for names (12-41 to 12-44... ...The system includes a motion picture pattern generator, a **still picture** pattern generator and a central processing unit for controlling the overall operation of the system under the control of the operator. A picture processing unit serves for combining

motion and **still picture** patterns to form a video signal to be supplied to the T.V. set... ...The picture processing unit includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period. A temporary **memory stores** information relating to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during the scanning of current line... ...It includes a motion picture pattern generator, a **still picture** pattern generator, a central processor for controlling the overall operation of the system under the control of the operator, and a picture processor for combining motion and **still picture** patterns to form a video signal to be supplied to the T.V. set... ...The picture processor includes a motion attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period... ...A temporary **memory stores** information relating to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during the scanning of current line... ...game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, a central processing unit for controlling the overall operation of the system under the control of the operator, and a picture processing unit for combining motion and **still picture** patterns to form a video signal to be supplied to the T.V. set... ...The picture processing unit includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period. A temporary **memory stores** information relating to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during the scanning of current line... ...The system for displaying desired picture on screen of raster scanning type TV set includes motion picture pattern and **still picture** pattern generators. A central processing unit controlling the overall operation of the system under the control of the operator, and a picture processing unit for combining motion and **still picture** patterns to form a video signal to be supplied to the TV set... ...The picture processing unit includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period and a temporary **memory**. The **memory stores** information relating to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during the scanning of current line... **Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-009/22**... ...**A63F-009/24** Main **G06F-015/44**... ...**G06F-003/15**... ...**H04N-005/22**... ...**H04N-005/262**... ...**H04N-007/18**... ...**H04N-009/53**... ...**H04N-009/64**... ...**H04N-009/76** Manual Codes (EPI/S-X): **T04-H01**... ...**W04-X02C** Original Publication Data by Authority...**Original Abstracts:**game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, **a central** processing unit for controlling the overall operation of the system under the control of the operator, and a picture processing unit for combining motion and **still picture** patterns to **form a** video signal to be supplied to the T.V. set, whereby the picture processing unit includes a motion picture attribute table **memory** which **stores** information **relating** to **motion** picture pattern for the next following frame during the horizontal blanking period and a temporary **memory** which **stores** information **relating** to **motion** picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during the scanning **of** current line... ... game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, a central processing unit for **controlling the** overall operation of the system under the control of the operator, and a picture processing unit for combining motion and **still picture** patterns to form a video signal to **be supplied** to the T.V. set, whereby the picture processing unit includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern **for** the **next** following frame during the horizontal blanking period and a temporary **memory** which **stores** information relating to motion picture pattern **to** be **displayed** in the next following line by accessing the motion picture attribute table **memory** during the scanning of current line. ... ... game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, a central processing unit for controlling the overall operation of **the system** under the

control of the operator, and a picture processing unit for combining motion and **still picture** patterns to form a video signal to be supplied to the T.V. **set**, whereby the picture processing unit includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame **during** the **horizontal** blanking period and a temporary **memory** which **stores** information relating to motion picture pattern to be displayed in the **next** following **line** by accessing the motion picture attribute table **memory** during the scanning of current line. ... ... game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, a central processing unit for controlling the overall operation of the system under the control **of the** operator, and a picture processing unit for combining motion and **still picture** patterns to form a video signal to be supplied to the T.V. set, whereby the picture **processing unit** includes a motion picture attribute table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period **and** a **temporary memory** which **stores** information relating to motion picture pattern to be displayed in the next following line by accessing **the** motion **picture** attribute table **memory** during the scanning of current line. ... ... game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a **still picture** pattern generator, a central processing unit for controlling the overall operation of the system under the control of the operator, and a **picture processing** unit for combining motion and **still picture** patterns to form a video signal to be supplied to the T.V. set, whereby the picture processing unit includes a motion **picture attribute** table **memory** which **stores** information relating to motion picture pattern for the next following frame during the horizontal blanking period and a temporary **memory** which **stores** information **relating** to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table **memory** during **the** scanning of current line. ...**Claims:**data designating an identification and a display position of at least one motion picture character to be displayed on the screen of said display, first **storing** means in which the designation data, designating the identification and the display position of at least one motion picture character to be displayed in the next frame based on the designation data generated from said designation data generating means, is written during a vertical blanking period of said display, second **storing** means, into which the designation data, designating the identification and the display position of one or more motion picture characters to **be** displayed on the next following horizontal scanning line based on the designation data **stored** in said first **storing** means, is written during a horizontal scanning period of said display, third **storing** means including an area capable of **storing** pattern data of up to a predetermined number of motion picture characters which can be displayed on a horizontal scanning line at the same time, into which area pattern data of predetermined bits in the horizontal scanning direction of at least one motion picture character to be **displayed** as transferred from **said** pattern data generating means based on the designation data **stored** in said **second storing** means are written during a **horizontal** blanking period, and from which area said pattern data are read out during a next following horizontal scanning period, and means for supplying said pattern data read out from said third **storing** means to said display. A T.V. game system for use with a raster scanning type display and arranged to display **at** least one motion picture character on a screen of said display, comprising pattern data generating means for generating pattern data of at least one motion... ...data designating an identification and a display position of at least one motion picture character to be displayed on the screen of said display, first **storing** means in which the designation data, designating the identification and the display position of at least one motion picture character to be displayed in the next frame based on the designation data generated from said designation data generating means, is written during a vertical blanking period of said display, second **storing** means, into which the designation data, designating the identification and the display position of one or more motion picture characters **to** be displayed on the next following horizontal scanning line based on the designation data **stored** in said first **storing** means, is written during a horizontal scanning period of said display, third **storing** means including an area capable of **storing** pattern data of up to a predetermined number of motion picture **characters** which can be displayed on a horizontal scanning line at the same time, into which area pattern data of predetermined bits in the horizontal scanning direction of at least one motion picture character to be **displayed** as transferred from **said** pattern data generating means based on the designation data **stored** in said

second storing means are written during a **horizontal** blanking period, and from which area said pattern data are read out during a next following horizontal scanning period, and means for supplying said pattern data read out from said third **storing** means to said display. GB2153640 A colour encoder comprising a colour generator for generating a colour code signal, said colour generator **having** a predetermined number of colour code signals and generating as an output one of said predetermined number of colour code signals in response to a... An external **video game memory** arrangement for coupling to a **video game** system having: (a) a picture processing unit including an attribute table **memory**, a temporary **memory** coupled to said attribute table **memory**, a **buffer memory** coupled to said temporary **memory**, and background signal generation circuitry; (b) a video signal synthesizer means coupled to said picture processing unit for outputting composite video signals defining video frames for display by a television set, said video signals including **line scanning periods**, horizontal blanking periods, and vertical **blanking periods**, and (c) a programmable processor coupled to and cooperating with said **picture** processing unit, **said** external **memory** arrangement comprising: an **external** character **generator coupled** to said picture processor **unit**, said character generator for providing first character data for **storage** into said **buffer memory** during horizontal blanking periods in response to character identification data **stored** in said temporary **memory**, and providing further character data to said background signal generation circuitry during line scanning periods, and a program **memory** for coupling to said programmable processor, said program **memory** providing at least program **control** instructions for execution by said programmable processor so as to effect writing of data specifying character identification and position into said **attribute** table **memory during a** vertical blanking period associated with a video frame, said character **position** data being selectively **written** from said attribute **memory** into said temporary **memory** during line scanning and subsequently written from said temporary **memory into** said **buffer memory** during horizontal blanking for use **in** generating composite video signals during a next subsequent video line scanning period.What **is** claimed is:**In a video game** system including an external program **memory**, said system for providing a sequence of video signals for display by a raster scan television receiver, said video signals defining sequential frames of video... ... said video signals including timing signals defining time periods corresponding to horizontal scanning, horizontal blanking and vertical blanking, a method comprising the steps of:
(a) **storing** motion picture data corresponding to plural motion picture characters to be displayed **within a** frame of **video** into an **object** attribute **memory** during a vertical blanking period, said motion picture data including horizontal position data, motion picture identification data, and attribute data corresponding to each of plural motion picture characters;
(b) selecting motion picture identification, horizontal position and attribute data **stored** within said object attribute table **memory** defining motion picture characters to be displayed within a predetermined subsequent line of video during line scanning **of** at least one earlier line;
(c) writing said selected motion picture horizontal position and attribute data to a motion picture **buffer memory** during horizontal blanking just prior to said predetermined subsequent line of video;
(d) addressing said character **memory** using said motion picture identification data during the horizontal blanking period utilized by said writing step (c);
(e) producing motion picture character pattern **data** at an output of said **character memory** in response to said addresses applied by said applying step (d);
(f) writing said motion picture pattern data into said motion picture **buffer memory** during said horizontal blanking just prior to said predetermined subsequent line of video; and
(g) **producing video** signals during line scanning of said predetermined subsequent line of video in response to the contents of said **motion** picture **buffer memory.>Basic Derwent Week: 198427**

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United States Patent [19]

Ueda et al.

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[54] T.V. GAME SYSTEM HAVING REDUCED MEMORY NEEDS

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[73] Assignees: Ricoh Co., Ltd., Tokyo; Nintendo Co., Ltd., Kyoto, both of Japan

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[51] Int. Cl.[5] G09G 1/16
[52] U.S. Cl. 273/437; 273/434; 273/DIG. 28; 340/723; 340/725
[58] Field of Search ..... 273/1 E, 85 G, 138 A, 273/DIG. 28, 433, 434, 437; 434/48; 364/410; 340/705, 721, 723, 724, 725; 358/104, 142, 91, 92, 183

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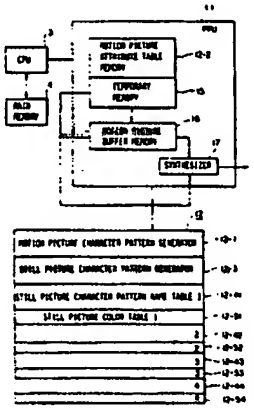
[57] ABSTRACT

A T.V. game system for displaying a desired picture on the screen of a raster scanning type T.V. set includes a motion picture pattern generator, a still picture pattern generator, a central processing unit for controlling the overall operation of the system under the control of the operator, and a picture processing unit for combining motion and still picture patterns to form a video signal to be supplied to the T.V. set, whereby the picture processing unit includes a motion picture attribute table memory which stores information relating to motion picture pattern for the next following frame during the horizontal blanking period and a temporary memory which stores information relating to motion picture pattern to be displayed in the next following line by accessing the motion picture attribute table memory during the scanning of current line.

42 Claims, 7 Drawing Sheets



present embodiment is 48, and four of the remaining codes may be allocated to white, gray (2) and black.

FIG. 10 shows another embodiment of the present invention in which two PPUs 11-1 and 11-2 are coupled together to synthesize the character patterns in these PPUs 11-1 and 11-2. Let us assume that use is made of the SLAVE signal and PPUs 11-1 and 11-2 function as a master and a slave, respectively. With PPUs 11-1 and 11-2 interconnected as shown in FIG. 10, a square wave having sharp rising and falling edges is applied to a clock terminal CLK and a reset signal is employed for initial synchronization between the two PPUs 11-1 and 11-2. Under the condition, the character pattern data of slave PPU 11-2 is outputted from terminals EXT0-3 to be inputted to the terminals EXT0-3 of master PPU 11-1, whereby synthesization of character pattern data takes place within the master PPU 11-1 with the determination of priority order as described with reference to FIG. 7.

With the structure shown in FIG. 10, as a video output signal, any of possible combinations between still or motion picture character pattern in master PPU 11-1 and still or motion picture character pattern in slave PPU 11-2 may be obtained and displayed on the screen.

As described in detail above, in accordance with the present invention, provision is made of a motion picture attribute table memory capable of storing information relating to a motion picture pattern for the next following frame during the vertical blanking period and a temporary memory for storing motion picture information to be displayed in the next following line, and, therefore, since the retrieval of motion picture attribute table memory can be done during the preceding line scanning operation, it is only necessary to retrieve the character pattern generator for those motion picture characters thus retrieved and found to be in-range during the horizontal blanking period. As a result, without requiring an increase in the number of connection pins, the number and kinds of motion picture character patterns which may be called or accessed during the horizontal blanking period can be increased.

While the above provides a full and complete disclosure of the preferred embodiments of the present invention, various modifications, alternate constructions and equivalents may be employed without departing from the true spirit and scope of the invention. Therefore, the above description and illustration should not be construed as limiting the scope of the invention, which is defined by the appended claims.

What is claimed is;

1. A video game system of the type having a program memory, and also having a character memory for storing character pattern data, said system for providing a sequence of video signals for display by a raster scan type television receiver, said video signals defining sequential frames of video, each of said video frames comprising a plurality of video lines having line scanning and horizontal blanking periods associated therewith, said video signals including timing signals defining vertical blanking periods between said video frames, said system comprising:

motion picture attribute table memory means for storing motion picture character pattern data;

microprocessor means, operatively connected to said motion picture attribute table memory means and to said program memory, for loading motion picture character identification, position and attribute data defining plural motion picture characters to be displayed within a frame of video into said motion picture attribute table memory means during said vertical blanking periods;

temporary memory means operatively connected to said motion picture attribute table memory means for storing said motion picture character identification, position and attribute data associated with a line of video;

motion picture buffer memory means connected to said temporary memory means for storing motion picture character pattern, position and attribute data associated with a line of video;

said character memory including motion picture character selection means, coupled to said temporary memory means and to said motion picture buffer memory means, for selecting motion picture character pattern data in response to said identification data stored in said temporary memory means and for loading said selected motion picture character pattern data into said motion picture buffer memory means during a horizontal blanking period;

data transfer means, connected to said temporary memory means and to said motion picture buffer memory means, for selecting motion picture character data stored within said motion picture attribute table memory means associated with motion picture characters to be displayed within said single video line, for copying said selected character data into said temporary memory means during a line scanning period, and for copying attribute and position data stored in said temporary memory means into said motion picture buffer memory means during a horizontal blanking period; and

video signal synthesizer means connected to said motion picture buffer memory means for producing said video signals in response to the contents of said motion picture buffer memory means.

2. A system as in claim 1 wherein:

said motion picture buffer memory means includes means for storing priority fields specifying a priority associated with said motion picture characters;

said system further includes still picture means for generating data representing a still background image; and

said video signal synthesizer means includes priority means operatively connected to said still picture means and said motion picture buffer memory means for selecting one of said motion picture character pattern data and said background representing data for display in at least partial response to said priority fields.

3. A system as in claim 1 wherein:

said motion picture buffer memory means includes means for storing includes a plurality of moving object data bits;

said system further includes still picture means for generating data representing a still background image, said still picture means including means for providing a plurality of background data bits; and

said video signal synthesizer means includes:

priority means operatively connected to said still picture means and to said motion picture buffer means for selecting between said moving object data bits and said background data bits in response to said moving object data bits and in response to said background data bits and for

passing said selected bits to an output thereof as color generator data bits, and

color code memory means connected to said priority means output for transforming said color generator data bits into color code signals.

4. A system as in claim 1 wherein:

said system includes still picture character pattern memory means for storing data representing still picture patterns; and

said system further includes picture address register means, operatively connected to said motion picture buffer memory means and to said still picture pattern memory means, for addressing said motion picture attribute table memory means during said horizontal blanking periods and for addressing said still picture pattern memory means during said line scanning.

5. A system as in claim 1 wherein said motion picture buffer memory means comprises a plurality of discrete motion picture character shift register means each for storing a motion picture character pattern data to be displayed and for providing said motion picture character pattern data in serial form to said video signal synthesizer means.

6. A system as in claim 1 wherein:

said system further includes means for generating vertical position signals associated with said video signal; and

said data transfer means includes:

comparing means, responsive to said vertical video timing signals and the data stored in said motion picture attribute table memory means, for determining whether vertical positional information stored in said motion picture attribute table memory means corresponds to said vertical position signals; and

address register means operatively connected to said comparing means for reading data stored in said motion picture attribute table memory means and for writing said selected data into said temporary memory means in response to said comparison.

7. A video game system of the type including a character memory and a program memory for providing video signals for display by a raster scan type television receiver, said video signals being of the type defining sequential frames of video, each of said video frames comprising a plurality of video lines having associated line scanning periods and horizontal blanking periods, said video signals further defining vertical blanking periods between said video frames, said system comprising:

vertical position signal producing means for producing a signal indicating a vertical position associated with a next video line to be displayed by said television receiver;

motion picture attribute table memory means for storing a plurality of motion picture data blocks corresponding to motion picture character patterns, each of said plurality of data blocks including a vertical position field, a horizontal position field, an attribute field, and a character number code;

temporary memory means for storing motion picture data blocks corresponding to motion picture characters for display as part of a next video line;

comparing and storing means, operatively connected to said motion picture attribute table memory means and to said temporary memory means and also connected to receive said vertical position indicating signal, for, during said line scanning, (a) comparing said vertical position indicating signal with the vertical position field of motion picture data blocks stored in said motion picture attribute table memory means, and (b) copying, from said motion picture attribute table memory means into said temporary memory means, at least the horizontal position field, attribute field, and character number code of any motion picture data blocks including a vertical position field which corresponds to said vertical position indicating signal;

motion picture buffer memory means for storing motion picture character pattern data, attribute data and horizontal position data corresponding to motion picture characters for display as part of said next video line;

said character memory including means for storing motion picture character pattern data and for providing motion picture character pattern data at an output thereof in response to receipt of a character number code;

data transfer means, connected to said temporary memory means, said character memory and said motion picture buffer memory means, for:

(a) reading said horizontal position data and said attribute data from said temporary memory means and writing said read horizontal position data and said attribute data to said motion picture buffer memory means during said horizontal blanking period,

(b) reading character number codes from said temporary memory means and providing said character number codes to said character memory means during said horizontal blanking period, and

(c) obtaining character pattern data responsive to said provided character number codes from said character memory means output and writing said character pattern data to said motion picture buffer memory means during said horizontal blanking period; and

video signal synthesizer means connected to said motion picture buffer memory means for producing said video signals during horizontal line scanning in response to the contents of said motion picture buffer memory means.

8. In a video game system of the type including a program memory and a character memory for providing a sequence of video signals for display by a raster scan type television receiver, said video signals defining sequential frames of video, each of said sequential video frames comprising a plurality of video lines, said video signals including timing signals defining time periods corresponding to horizontal scanning, horizontal blanking and vertical blanking, a method comprising the steps of:

(a) storing motion picture data corresponding to plural motion picture characters to be displayed within a frame of video into a motion picture attribute table memory during vertical blanking period, said motion picture data including horizontal position data, motion picture identification data, and attribute data corresponding to each of plural motion picture characters;

(b) selecting motion picture identification, horizontal position and attribute data stored within said motion picture attribute table memory defining motion picture characters to be displayed within a

predetermined subsequent line of video during line scanning of earlier lines;

(c) reading said selected motion picture identification, horizontal position and attribute data from said motion picture attribute table memory and writing said selected motion picture identification, horizontal position and attribute data into a temporary memory during said line scanning of earlier lines;

(d) writing said motion picture horizontal position and attribute data from said temporary memory to a motion picture buffer memory during horizontal blanking just prior to said predetermined subsequent line of video;

(e) addressing said character memory using said motion picture identification data during the horizontal blanking period utilized by said writing step (d);

(f) producing motion picture character pattern data at an output of said character memory in response to said addresses applied by said applying step (e);

(g) writing said motion picture pattern data into said motion picture buffer memory during said horizontal blanking just prior to said predetermined subsequent line of video; and

(h) producing video signals during line scanning of said predetermined subsequent line of video in response to the contents of said motion picture buffer memory.

9. A method as in claim 8 wherein:

said storing step (a) includes the step of storing priority bits specifying a priority associated with said motion picture characters;

said method further includes the steps of generating data representing a still background image; and

said producing step (h) includes the step of selecting between said motion picture character pattern data and said background image representing data in at least partial response to said priority bits.

10. A method as in claim 8 wherein:

said storing step (a) includes storing includes a plurality of moving object data bits into said motion picture attribute table memory;

said method further includes the step of generating a plurality of background data bits representing a still background image; and

said producing step (h) includes the following steps:

(i) selecting between said moving object data bits and said background data bits,

(ii) providing said selected bits to an output as color generator address bits,

(iii) transforming said color generator address bits into color code signals.

11. A method as in claim 10 wherein said transforming step (iii) includes the step of addressing a color memory with said color generator address bits.

12. A method as in claim 8 including the additional steps of:

storing data representing still picture pattern data in a still picture memory;

addressing said motion picture attribute table memory with a picture address register during horizontal blanking; and

addressing said still picture memory with said picture address register during said line scanning..

13. A method as in claim 8 wherein:

said writing step (d) includes the following steps:

(d1) writing said horizontal position data from said temporary memory to a counter within said motion picture buffer memory, and

(d2) writing said attribute data from said temporary memory to a register within said motion picture buffer memory; and

said writing step (g) includes storing said motion picture character pattern data into shift registers within said motion picture buffer memory.

14. A method as in claim 8 wherein said producing step (h) includes the step of serially shifting character pattern data out of said shift registers during line scanning.

15. A method as in claim 8 wherein:

said method further includes generating vertical timing signals associated with said video signal; and

said selecting step (b) includes the following steps:

(b1) determining whether vertical positional information also stored in said motion picture attribute table memory corresponds to said generated vertical timing signals,

(b2) selecting data stored in said motion picture attribute table memory means in response to said comparison, and

(b3) writing said selected data into said temporary memory.

16. In a video game system of the type including a program memory, and a character memory having character pattern data stored therein, said system for providing video signals for display by a raster scan type video display, said video signals defining sequential frames of video, each of said video frames comprising a plurality of video lines having associated line scanning periods, said video signals further defining horizontal and vertical blanking periods, a method comprising the following steps;

(a) producing a vertical position signal indicating a vertical position associated with a subsequent video line to be displayed by said video display;

(b) storing, with a microprocessor under control of instructions stored within said program memory, a plurality of data blocks indicating motion picture character patterns to be displayed on subsequent video lines, into a memory motion picture attribute table, each of said plurality of data blocks including vertical position data, horizontal position data, attribute data, and a character identification code;

(c) comparing, during line scanning, said vertical position indicated by said vertical position signal with said vertical position data stored in said motion picture attribute table;

(d) storing, during line scanning from said motion picture attribute table into a temporary memory table, those previously stored data blocks having vertical position data which said comparing step (c) reveals correspond to said indicated vertical position of a subsequent video line;

(e) reading said horizontal position data and said attribute data from said temporary memory and writing said read horizontal position data and said attribute data to a motion picture buffer memory table during a horizontal blanking period just prior to said subsequent video line;

(f) also reading said character identification codes from said temporary memory and providing said character identification codes to said character pattern memory during said horizontal blanking period just prior to said subsequent video line;

(g) generating character pattern data responsive to said providing character identification codes with said character pattern memory during said hori-

zontal blanking period just prior to said subsequent video line;

(h) writing said generated character pattern data to said motion picture buffer memory during said horizontal blanking period just prior to said subsequent video line; and

(i) producing said video signals during line scanning of said subsequent video line in response to the contents of said motion picture buffer memory.

17. A video game memory system for use in a video game system having: (a) a picture processing unit including a motion picture attribute table memory, a temporary memory, a motion picture buffer memory for providing motion picture character attribute and pattern data to an addressable color generator memory via a multiplexer, and a video signal synthesizer coupled to said color generator, said synthesizer being of the type which produces video signals defining video frames having line scanning periods, horizontal blanking periods, and vertical blanking periods, said picture processing unit having a multiplexed address/data bus, and (b) a CPU coupled to and cooperating with said picture processing unit, said video game memory system comprising:

a video memory coupled to said picture processor unit multiplexed address/data bus, said video memory including a character pattern generator, adapted to be coupled to said multiplexed address/data bus, for:

(a) storing motion picture character pattern data and providing said motion character pattern data to said bus for storage into said motion picture buffer memory during horizontal blanking periods in response to character identification data stored in said temporary memory, and

(b) storing still picture character pattern data and providing said still picture character pattern data to said bus during line scanning periods, and a main memory for coupling to said CPU, said main memory storing program control instructions for controlling said CPU to write motion picture character data associated with said video frame specifying character identification, vertical position, horizontal position and attributes of motion picture characters into said motion picture attribute table memory during a vertical blanking period associated with a video frame, said motion picture character vertical position, horizontal position and attribute data being selectively copied to said temporary memory during line scanning and subsequently, said horizontal position and attribute motion picture character data being loaded into said motion picture buffer memory during horizontal blanking for use in generating video signals during a next subsequent video line scanning period.

18. A video game memory system as in claim 17 wherein: said video memory further includes:

a still picture character pattern name table specifying still picture character pattern data stored in said character pattern generator for display within the same video frame as motion picture character pattern data provided by said character pattern generator, and

a still picture color table specifying bit patterns which, in conjunction with said still picture character pattern data, specify a color generator memory address; and

said main memory stores program control instructions for controlling said CPU to write data into said still picture character pattern name table and said still picture color table.

19. A memory system as in claim 18 wherein said still picture name table generates a portion of a still picture character pattern address, and said character pattern generator receives said still picture character pattern address portion via said multiplexed address/data bus and provides, in response thereto over said same bus, two still picture character pattern bits corresponding to each dot to be displayed.

20. A memory system as in claim 18 wherein said still picture color table provides two color data bits corresponding to each dot to be displayed.

21. A memory system as in claim 17 wherein said character pattern generator produces motion picture pattern data in response to a first address and produces still picture pattern data in response to a further address.

22. A memory system as in claim 17 wherein each said data block stored in said temporary memory comprises the following:

an 8-bit vertical position,

an 8-bit character number,

an attribute value including a horizontal inversion bit, a vertical inversion bit, a priority bit, and a 2-bit color data value, and

an 8-bit horizontal position.

23. A memory system as in claim 17 wherein said character pattern generator is selectively responsive to an inverted vertical address so as to provide vertically inverted motion picture character pattern data.

24. A memory system as in claim 17 wherein said picture processing unit further includes a control register 0 and a control register 1, and said main memory stores program control instructions specify the following further tasks to be independently performed by the CPU:

(a) selectively reading from and/or writing to said control register 0; and

(b) selectively reading from and/or writing to said control register 1.

25. A memory system as in claim 17 wherein:

said video memory is adapted to be addressed by (i) a horizontal scroll/video memory address register (31) specifying a lower video memory address portion, and (ii) a vertical scroll/video memory address register (32) specifying an upper video memory address; and

said main memory stores program control instructions specifying loading of horizontal and vertical scrolling initiation positions into said registers (31), (32) respectively.

26. A memory system as in claim 17 wherein said main memory program control instructions specify the following further tasks to be performed by the CPU:

(a) initially writing thirty-two six-bit color codes into said color generator memory so as to provide a set of thirty-two colors; and

(b) subsequently to performance of function (a), selectively rewriting said color generator memory so as to provide a maximum number of forty-eight different colors.

27. A video game memory system for use with a video game of the type including: (a) a picture processing unit including a motion picture attribute table memory providing motion picture data to a temporary memory, a motion picture buffer memory providing ad-

dresses to an addressable color generator memory, and a video signal synthesizer coupled to said addressable color generator for producing video signals defining video frames having line scanning periods, horizontal blanking periods, and vertical blanking periods, said picture processing unit having a multiplexed address/data bus; and (b) a CPU coupled to and cooperating with said picture processing unit,

said video game memory system including:

a video memory coupled to said picture processor unit multiplexed address/data bus, said video memory including a character pattern generator for storing motion picture character pattern data and still picture character pattern data for display within the same video frame, said stored motion picture character pattern data including two motion picture character pattern bits associated with each dot of a motion picture character to be displayed, said stored still picture character pattern data including two still picture character pattern data bits associated with each dot of still picture to be displayed, said video memory for providing said motion character pattern data over said bus to said motion picture buffer memory during horizontal blanking in response the contents of said temporary memory and for providing still picture character pattern data to said bus during line scanning; and

a main memory for coupling to said CPU, said main memory storing program control instructions for execution by said CPU, said main memory program control instructions specifying motion picture character number, position and attribute date for writing into said motion picture attribute table memory during a vertical blanking period associated with a video frame, said motion picture character number data selecting motion picture character pattern data stored by said character pattern generator, whereby said motion picture character position and attribute data may be selectively written from said motion picture attribute table memory to said temporary memory during line scanning and from said temporary memory to said motion picture buffer memory during horizontal blanking.

28. A memory system as in claim 27 wherein said character pattern generator produces motion picture pattern data in response to a first address and produces still picture pattern data in response to a further address.

29. A memory system as in claim 27 wherein data blocks stored by said temporary memory each comprise the following:

an 8-bit vertical position,

an 8-bit character number,

an attribute value including a horizontal inversion bit, a vertical inversion bit, a priority bit, and a 2-bit color data value, and

an 8-bit horizontal position.

30. A memory system as in claim 27 wherein said character pattern generator is selectively responsive to an inverted vertical address so as to provide vertically inverted motion picture character pattern data.

31. A memory system as in claim 27 wherein said picture processing unit further includes a control register 0 and a control register 1, and said main memory stores program control instructions specifying the following tasks to be independently performed by the CPU:

(a) selectively reading from and/or writing to said control register 0; and

(b) selectively reading from and/or writing to said control register 1.

32. A memory system as in claim 27 wherein:

said video memory is adapted to be addressed by a horizontal scroll/video memory address register (31) specifying a lower video memory address portion, and a vertical scroll/video memory address register (32) specifying an upper video memory address; and

said main memory stores program control instructions specifying loading of horizontal and vertical scrolling initiation positions into said registers (31), (32) respectively.

33. A memory system as in claim 27 wherein said main memory stores program control instructions control the CPU to:

initially writing thirty-two six-bit color codes into said color generator memory so as to provide a set of thirty-two colors; and

selectively rewriting said color generator memory so as to provide a maximum number of forty-eight different colors.

34. A video game system of the type providing display of motion picture and background graphics within the same video frame, said video game system comprising:

motion picture buffer means for generating first and second motion picture bits OBJ0, OBJ1 representing an address corresponding to a pixel of a motion picture graphic character and for providing a priority bit OBJ4;

still picture means for generating first and second still picture bits BG0, BG1 representing an address corresponding to a pixel of a still picture graphic character;

a color generator memory for generating color signals in response to addresses applied thereto; and

a priority multiplexer, coupled to said motion picture buffer means and to said still picture means and connected to receive said bits OBJ0, OBJ1, OBJ4, BG0 and BG1, said priority multiplexer including:

means for ORing said bits OBJ0 and OBJ1 together to provide a first ORed result alternately having a first logic state or a second logic state,

means for ORing said bits BG0 and BG1 together to provide a second ORed result alternately having a first logic state or a second logic state, and

selecting means coupled to said color generator memory for:

(a) addressing said color generator memory with said bits BG0, BG1 whenever said first ORed result has said first logic state,

(b) addressing said color generator memory with said bits BG0, BG1 whenever said first ORed result has said second logic state, said second ORed result also has said second logic state, and said priority bit OBJ4 has said second logic state, and

(c) otherwise addressing said color generator memory with said bits OBJ0, OBJ1.

35. A video game system as in claim 34 wherein said first logic state comprises logic level zero and said second logic state comprises logic level on.

36. A video game system of the type providing display of motion picture and background graphics within the same video frame, said video game system comprising:

motion picture buffer means for generating first and second motion picture bits OBJ0, OBJ1 represent-

ing color generator memory address bits corresponding to a pixel of a motion picture graphic character and for also providing a priority bit OBJ4 alternately having a first or a second logical state;

still picture means for generating first and second still picture bits BG0, BG1 corresponding to a pixel of a still picture graphic character; and

a priority multiplexer, coupled to said motion picture buffer means and to said still picture means and connected to receive said bits OBJ0, OBJ1, OBJ4, BG0 and BG1, said priority multiplexer including:

means for ORing said bits OBJ0 and OBJ1 together to provide a first ORed result alternately having a first logic state or a second logic state, and

means for ORing said bits BG0 and BG1 together to provide a second ORed result alternately having a first logic state or a second logic state, and

selecting means for outputting an address including said bits OBJ0, OBJ1 only when said first ORed result has said second state and either: (a) said priority bit OBJ4 has said first state, or (b) said priority bit OBJ4 has said second state and said second ORed result has said first state.

37. A video game system as in claim 36 wherein said first logic state comprises logic level zero and said second logic state comprises logic level one.

38. In a microprocessor based video game system of the type capable of providing a frame of video including motion picture characters and background characters for display by a raster scan type television receiver, said video game system including:

a video random access memory for storing motion picture character related data and background character related data, said motion picture character related data including priority values and color data bits associated and corresponding with motion picture characters;

a character generator operatively coupled to said video random access memory for producing (a) at least some of plural motion picture character pattern bits corresponding to a display pixel in response to said stored motion picture character related data, and (b) at least some of plural background character pattern bits corresponding to a display pixel in response to said stored background character related data; and

a priority order determining circuit connected to receive said priority values and color data bits, said motion picture character pattern bits and said background character pattern bits, said priority order determining circuit including a first logic circuit which receives said motion picture character pattern bits and tests whether a motion picture character is present at said display pixel, a second logic circuit which receives said background character pattern bits and tests whether said background picture character is present at said display pixel, and an output circuit responsive to the tests performed by said first and second logic circuits which generates a signal selecting between said motion picture character pattern bits and said background character pattern bits in response to said priority value when said motion picture character and said background picture character pattern are each present at said display pixel, said signal generated by said output circuit selecting said background character pattern bits regardless of said priority values whenever the following conditions are satisfied:

(i) the test performed by said first logic circuit reveals that a motion picture character is not present at said display pixel, and

(ii) the test performed by said second logic circuit reveals that background character pattern is also not present at said display pixel.

39. A system as in claim 38 wherein said output circuit selects said motion picture character pattern bits for display at said display pixel whenever a motion picture character is present at said display pixel.

40. An external memory system adapted for coupling to a microprocessor based video game of the type capable of providing a frame of video including motion picture characters and background characters, said video game including a priority multiplexer for selectively, alternately passing motion picture character pattern data and background character pattern data for generating a display on a raster scan type video display, said video game including a video memory operatively coupled to said microprocessor and further including a color generator memory coupled to said priority multiplexer, said color generator memory providing an output in response to an input applied thereto, said color generator memory output specifying the color to be displayed by said raster scan type video display, said external memory system including:

a program memory for coupling to said microprocessor, said program memory storing and providing instructions for controlling said microprocessor to store, in said video memory, background character related data specifying plural background characters and motion picture character related data specifying display positions for plural motion picture characters, said motion picture character related data including a priority bit for each of said plural motion picture characters for application to said priority multiplexer, said priority bit specifying a priority for selection between a motion picture character and a background character in instances in which said background related data and said motion picture character related data define a common display position; and

a character generator operatively coupled in use to said video memory for producing motion picture character pattern bits for application to said priority multiplexer in response to at least a portion of said stored motion picture character related data and for producing background character pattern bits for application to said priority multiplexer in response to at least a portion of said stored background picture related data,

wherein said priority multiplexer passes either (i) said motion picture character pattern bits or (ii) said background character pattern bits to said color generator memory input, said priority multiplexer selecting between said motion picture character pattern bits and said background character pattern bits in response to the states of said priority bit, at least some of said motion picture character pattern bits, and at least some of said background character pattern bits.

41. In a microprocessor based video game system capable of providing a frame of video including motion picture characters and background characters, a method of operating said video game system including the following steps:

(a) storing motion picture related data and background related data, said stored motion picture related data including priority values corresponding with associated motion picture characters;

(b) producing motion picture character pattern bits in response to said stored motion picture related data;

(c) producing background character pattern bits in response to said stored background picture related data;

(d) performing a first test, in response to said motion picture character pattern bits, to determine whether a motion picture character is present at a display location;

(e) performing a second test, in response to said background character pattern bits, to determine whether a background picture character is present at said display location; and

(f) generating a signal selecting between said motion picture character pattern bits and said background character pattern bits for generation of display signals corresponding to said display location, including the steps of:

(i) selecting said background picture character pattern bits, regardless of the state of said priority value associated with said motion picture character, whenever said testing step (d) reveals said motion picture character pattern is not present at said location and said testing step (e) reveals said background picture character is also not present at said display location, and

(ii) selecting said background picture character pattern bits when said testing steps (d) and (e) reveal that said motion picture character and said background picture character are both present at said location and said priority value associated with said motion picture character has a predetermined state.

42. In an electronic microprocessor based video game system capable of providing a frame of video including motion picture characters and background characters for display by a raster scan type television display, said electronic microprocessor based video game system including: (a) a picture processing unit including a motion picture attribute table memory, a temporary memory, a motion picture buffer memory, a color generator memory, and a video signal synthesizer, said picture processing unit writing motion picture character numbers, positions and attributes from said motion picture attribute table memory to said temporary memory during line scanning, said motion picture buffer memory providing addresses to said color generator memory, and said video signal synthesizer being coupled to said color generator for producing video signals defining video frames having line scanning periods, horizontal blanking periods, and vertical blanking periods, said picture processor unit further including a multiplexed address/data bus, (b) a CPU coupled to and cooperating with said picture processing unit, and (c) a video RAM coupled to said picture processing unit,

a method of generating signals within an external memory system and applying said generated signals to said video game system, said method including the following steps:

applying first program control signals to said CPU, said first program control signals specifying still picture character pattern name signals and still picture color signals for writing into said video RAM;

applying second program control signals to said CPU, said second program control signals specifying plural 6-bit color codes for writing into said color generator memory;

applying third program control signals to said CPU, said third program control signals specifying motion picture character numbers, positions and attributes for writing into said motion picture attribute table memory during a vertical blanking period associated with a video frame, said provided attribute signals including an inversion signal, at least one color code signal, and at least one priority signal;

successively providing, over said bus during line scanning in response to previously provided still picture character pattern name signals, first and second still picture pattern bit signals for each dot of still picture to be displayed; and

successively providing, over said bus during horizontal blanking in response to the contents of said temporary memory, first and second character pattern bit signals for each dot of motion picture to be displayed.

* * * * *

20/5,K/47 (Item 47 from file: 350) **Links**
Derwent WPIX

0010666830 ***Drawing available***
WPI Acc no: 2001-275463/200129
Related WPI Acc No: 2002-494573; 2003-674971
XRPX Acc No: N2001-196927

ENGLISH TRANSLATION ATTACHED

Video game machine selects specific image data from moving image display, which is evaluated relevant to original photography condition

Patent Assignee: KONAMI KK (KONA-N)
Inventor: HAMANO T; YAMAGUCHI T

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 2000262751	A	20000926	JP 200014979	A	20000124	200129	B
JP 3256528	B2	20020212	JP 200014979	A	20000124	200213	E

Priority Applications (no., kind, date): JP 200014979 A 20000124

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
JP 2000262751	A	JA	25	14		
JP 3256528	B2	JA	20		Previously issued patent	JP 2000262751

Alerting Abstract JP A
NOVELTY - The moving image data for displaying moving image to a preset display unit (102) is generated. The **still picture** data is generated from the displayed moving image, when the person operates input device (104). The specific image is selected and evaluated relevant to original photographic condition. The evaluation result is indicated to the player.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

A. control procedure of **video game** machine;
B. input **device of video game** machine;
C. recording medium

USE - **Video game** machine used in domestic and commercial purposes.
ADVANTAGE - As the image resembling original photography image is produced, the pseudophotography game is observed.
DESCRIPTION OF DRAWINGS - The figure shows the perspective view of the game machine.
102 Display unit
104 Input device

Title Terms /Index Terms/Additional Words: VIDEO; GAME; MACHINE; SELECT; SPECIFIC; IMAGE; DATA; MOVE; DISPLAY; EVALUATE; RELEVANT; ORIGINAL; PHOTOGRAPH; CONDITION

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A63F-013/00			Main		"Version 7"
A63F-013/10; A63F-013/12; G09B-009/00			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: T01; W04; P36; P85
Manual Codes (EPI/S-X): **T01-P02A; T01-S03; W04-X02C**

Video game machine selects specific image data from moving image display, which is evaluated relevant to original photography condition Original Titles:GAME DEVICE, ITS INPUT DEVICE, CONTROL METHOD OF GAME DEVICE AND **RECORDING** MEDIUM **Alerting Abstract** ...NOVELTY - The moving image data for displaying moving image to a preset display unit (102) is generated. The **still picture** data is generated from the displayed moving image, when the person operates input device (104). The specific image is selected and evaluated relevant to original... ... control procedure of **video game** machine; input **device of video game** machine; **recording** medium USE - **Video game** machine used in domestic and commercial purposes.**Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A63F-013/00** Main **A63F-013/10**... ...**A63F-013/12** Manual Codes (EPI/S-X): **T01-P02A**... ...**T01-S03**... ...**W04-X02C**... ...

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13/10		13/10		
13/12		13/12	C	
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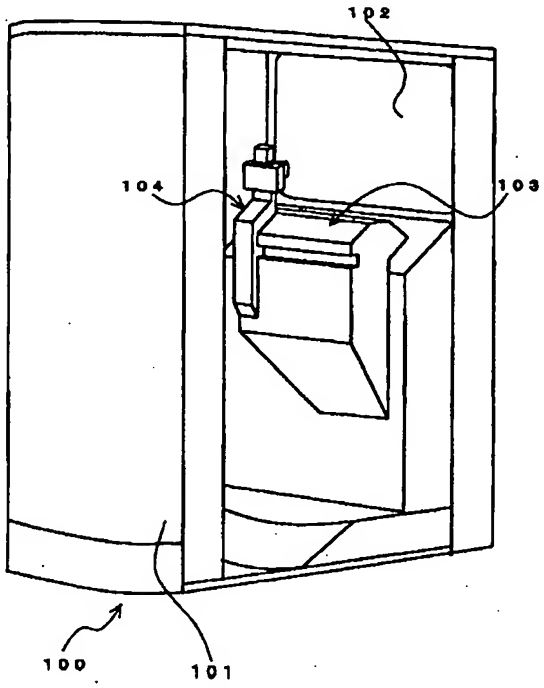
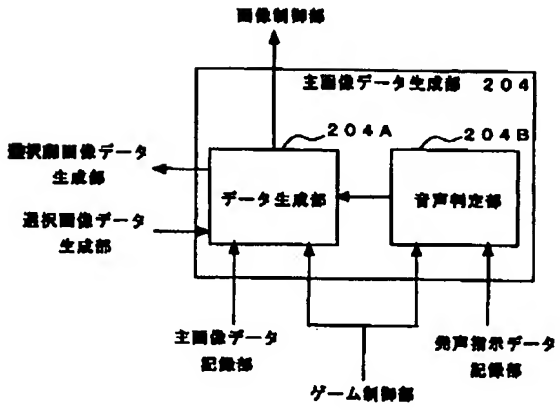
(54)【発明の名称】　ゲーム装置及びその入力装置、ゲーム装置の制御方法、並びに記録媒体

(57)【要約】
【解決課題】　撮影行為を遊戯者に擬似体験させるゲームを実行することのできるゲーム装置を実現する。
【解決手段】　ゲーム装置１００は、ゲームを行う遊戯者が内部に入れる筐体１０１に、動画である主画像を表示するディスプレイ装置１０２、入力装置１０４などを設けて構成される。入力装置１０２は、カメラの形状を模し、且つシャッター釦を備えた擬似カメラを含む。擬似カメラは、ディスプレイ装置に対して左右、上下方向などへ移動可能とされる。擬似カメラの背面には、カメラのファインダを模し、且つ擬似カメラの移動に伴って、主画像の一部が表示される選択用ディスプレイ装置が設けられる。遊戯者は、選択用ディスプレイ装置を見ながら擬似カメラを移動させ、好みのタイミングでシャッター釦を押し、主画像の一部を切り取る形で選択画像を生成する。選択画像を撮影した写真とみなし、これに対する評価をディスプレイ装置上に表示することで、撮影ゲームが成立する。



【図5】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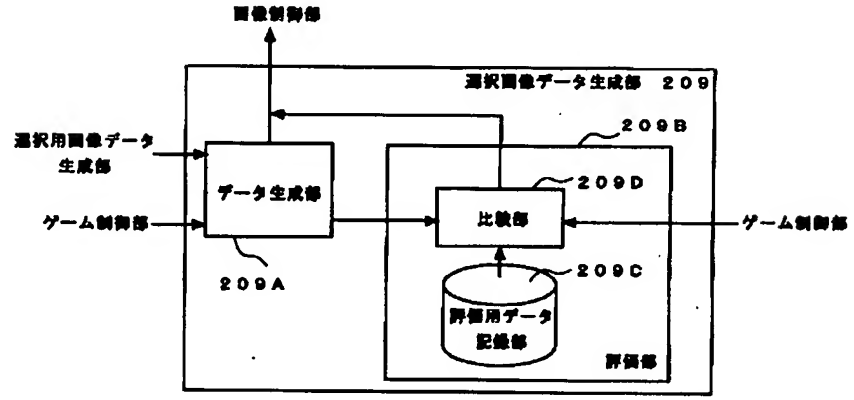
主画像データ生成部　204
204A
204B
選択画像データ生成部
データ生成部
音声判定部
選択画像データ生成部
主画像データ記憶部
ゲーム制御部
発声指示データ記憶部

【図6】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選択画像データ生成部　209
209B
選択用画像データ生成部
データ生成部
209D
比較部
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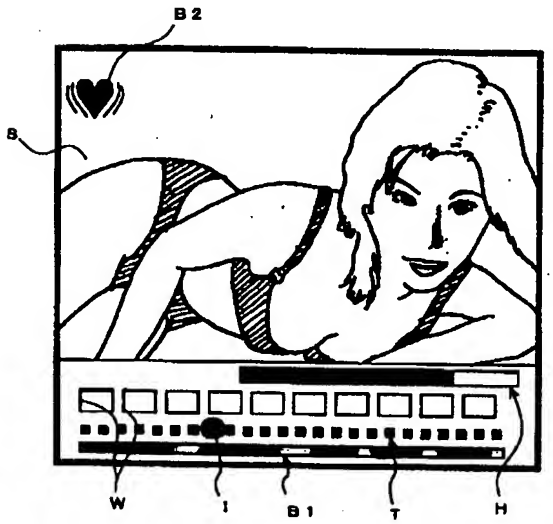
209A
209C
評価用データ記憶部
評価部

【図8】


B2
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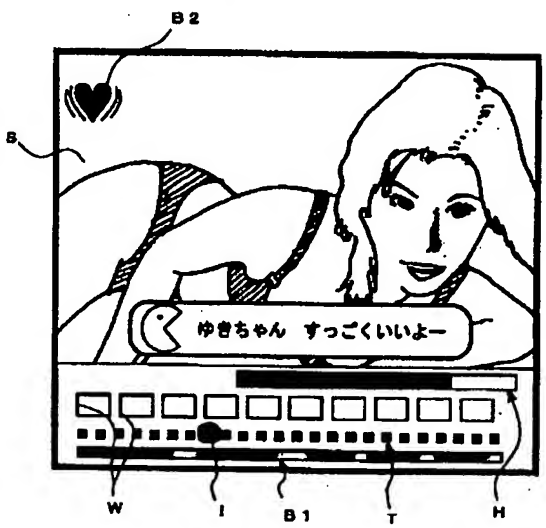
【図11】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CLAIMS

[Claim(s)]
[Claim 1] A main image data generation means to generate the main image data which is image data for displaying the main image on a predetermined display unit, Based on the contents of actuation as which the play person operated and inputted the input means, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, While it has an evaluation means to show a play person this evaluation while performing evaluation to the selection image specified by this selection image data, and regarding it as the image which photoed the selection image with the camera Game equipment which consists of showing evaluation of said image photoed to the play person with said evaluation means so that a play person may be made to do false experience of the photography action.
[Claim 2] Said main image is game equipment according to claim 1 said whose selection image it is an animation and is a still picture.
[Claim 3] A record means by which the evaluation data for selection image evaluation beforehand prepared about each of all the selection image data by which said evaluation means may be generated were recorded, Game equipment according to claim 1 constituted including a contrast means to perform evaluation about the selection image concerned by contrasting the selection image data generated by actuation of a play person's input means with the data recorded on said record means.
[Claim 4] It is game equipment according to claim 1 constituted by having further a voice data generation means to generate voice data based on a play person's voice inputted from predetermined microphone equipment so that said main image data generation means may generate the main image data in which said voice data was made to reflect.
[Claim 5] Game equipment according to claim 4 constituted by having an utterance directions means to direct the timing which should input voice into said microphone equipment to a play person.
[Claim 6] Said utterance directions means is game equipment according to claim 5 constituted so that the contents of the voice which should be inputted into said microphone equipment may be directed to a play person in addition to the timing which should input voice into said microphone equipment.
[Claim 7] It is game equipment according to claim 6 constituted by having an utterance judging means generate the voice judging data which are data in which extent of the correctness is shown while judging the correctness to the contents of the timing which should input the voice directed by said utterance directions means of the voice which the play person inputted, and the voice which should input so that said main image-data generation means may generate the main image data in which said voice judging data made reflect.
[Claim 8] Said main image data generation means is game equipment according to claim 7 constituted so that the probability that evaluation with the expensive selection image with which the case where extent of the accuracy shown with said voice judging data was higher was chosen based on the main image can be obtained may become high and the main image data may be generated.
[Claim 9] Said input means is game equipment according to claim 1 constituted so that the 1st

information for making the location of said selection image in the inside of said main image and the magnitude of said selection image change and the 2nd information for determining a selection image can be inputted.
[Claim 10] Said input means is game equipment according to claim 9 constituted by having the display unit for selection which displays the image which will be determined as a selection image if said 2nd information is inputted.
[Claim 11] Said input means is game equipment according to claim 1 constituted including the false camera of the configuration which imitated the camera.
[Claim 12] It is game equipment according to claim 10 formed [contain / said input means / the false camera which imitated the configuration of a camera] by said display unit for selection imitating the finder of a camera to the false camera concerned.
[Claim 13] The game equipment according to claim 1 which is further equipped with an access-information presentation means show a play person the access information for accessing the computer of which read-out of said selection image data was made possible via a communication line under predetermined conditions, from the record means which recorded selection image data, and is constituted so that the play person shown said access information may obtain the selection image data about the selection image chosen by itself via said computer.
[Claim 14] The game equipment according to claim 1 which is further equipped with an e-mail address receptionist means receive the e-mail address which the play person inputted, and make read the selection image data about the selection image which the play person who inputted the e-mail address into the predetermined computer of which read-out of said selection image data was made possible chose from the predetermined record means which recorded selection image data, and is constituted so that said selection image data may send to this e-mail address.
[Claim 15] Game equipment according to claim 1 which is further equipped with the connecting means which can send selection image data to the Personal Digital Assistant, reads said selection selection image data from the predetermined record means which recorded selection image data, and is constituted so that said selection image data may be sent to the Personal Digital Assistant connected to said connecting means through said connecting means.
[Claim 16] Game equipment according to claim 1 constituted about said selection image by having further the 1st selection timing directions means showing a play person whether high evaluation can be obtained if a play person operates said input means at which time.
[Claim 17] Game equipment according to claim 1 which consists of predetermined evaluations defined beforehand by having further the 2nd selection selection timing directions means being able to obtain high evaluation and showing a play person it at a case if a play person operates said input means at the time.
[Claim 18] A main image data generation means to generate the main image data which is image data for displaying the main image on a predetermined display unit, Based on the contents of actuation which operated the predetermined input means and the play person inputted, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, While it has an evaluation means to show a play person this evaluation while performing evaluation to the selection image specified by this selection image data, and regarding it as the image which photoed the selection image with the camera The component part which consists of showing evaluation of said image photoed to the play person with said evaluation means including the false camera which is the component part contained in the input means of the game equipment constituted so that a play person may be made to do false experience of the photography action, and was made into the configuration which imitated the camera.

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to game equipment. It is related with the video game equipment and photography action simulation equipment which can make a detail carry out false experience of the photography action which a cameraman gives to a play person more by performing the game which imitated the photography which a cameraman performs.
[0002]
[Background of the Invention] Video game establishes as one industrial field and is long. In order to provide a play person with the playing-around nature of a rich variation, business use and home use are not asked, but various video game is proposed and realized.
[0003] the pleasure obtained with the occupation by making a play person do false experience of the action which performs the game which reproduces the action performed with a specific occupation in the field of various video game, and is performed with the occupation -- a play person -- taste bubble **** -- the video game equipment which makes things the meaning exists. A play person can experience easily the pleasure obtained by carrying out false experience of the action in the occupation, and a temper, and this game equipment has won popularity very much. For example, the game which enabled it to experience the temper of the game, guitarist, and drummer who enabled it to experience DJ (D.J.) temper is realized, and it has actually become a popular game.
[0004] An invention-in-this-application person gropes for the new occupation which should be taken up by this kind of video game, and came to fix his eyes on the occupation of a cameraman. A cameraman is a gay occupation asked for sense of art, and is popular to a young man. Therefore, if a cameraman does false experience of the action of the photography which is the star-part of the action performed as work, a play person will be considered that it can obtain sufficient pleasure. Many events called the photography meeting at which an amateur cameraman photos models, such as female talent, are actually held as a policy for experiencing a cameraman temper. Therefore, it is clear that the layer it is sensed that wants to experience a cameraman temper exists. By the way, although it is difficult to photo one model by dozens of people from several persons in many cases, and to acquire sufficient satisfaction, the large sum participating costs of tens of thousands of yen are required of such a photography meeting from thousands of yen in many cases. The fact that many photography meetings are held in spite of such an ill condition means that the big layer which can obtain pleasure sufficient in the game which can experience a cameraman temper exists potentially, if conditions are more ready. However, the game equipment of the concept of making a play person experience the activity of the photography which a cameraman performs does not exist until now.
[0005]
[Problem(s) to be Solved by the Invention] This invention is made based on this present condition, and makes it the technical problem to offer the technique for realizing game equipment and it which perform the game which makes a play person do false experience of the activity of the photography which a cameraman performs. Moreover, if this game equipment is realizable, it is useful at the point that it can

realize easily and this can also use the photography action simulation equipment for carrying out simulation of the photography action for the practice purpose of photography etc. This invention also makes it the technical problem to offer the technique for realizing this photography action simulation equipment and it.
[0006]
[Means for Solving the Problem] Invention concerning this application for solving the above-mentioned technical problem is as follows. A main image data generation means to generate the main image data which is image data for this invention to display the main image on a predetermined display unit, Based on the contents of actuation as which the play person operated and inputted the input means, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, An evaluation means to show a play person this evaluation while performing evaluation to the selection image specified by this selection image data While having and regarding it as the image which photoed the selection image with the camera It is embodied as game equipment which consists of showing evaluation of said image photoed to the play person with said evaluation means so that a play person may be made to do false experience of the photography action.
[0007] With this game equipment, a play person chooses some main images displayed on the display as a selection image, and it is supposed that it will be regarded as the photograph which photoed this selection image with the camera. That is, the game equipment concerning this invention is made to carry out the virtual experience of the photography action by catching the person and scenery which are projected as a main image with a photographic subject, and catching with the photograph which obtained the selection image which chose the part by photoing the above-mentioned photographic subject by the play person. As [carry out / by this / by making the virtual experience of photography give a play person / the game equipment of this invention / to a play person / the taste bubble of the pleasure by photography] Moreover, this game equipment is equipped with an evaluation means to show a play person this evaluation while it performs evaluation to a selection image, and it enables it to strengthen the incentive to a play person's game by this evaluation.
[0008] What kind of image is sufficient as the main image in this invention. For example, if a female idle's image is used for the main image, it will be thought that it charms and becomes easy to follow a male play person. Since the model used as a photographic subject can be monopolized when a female idle's image is used as the main image, photography at an above-mentioned photography meeting etc. can be different, and can acquire the same satisfaction with to the full having taken a photograph. Moreover, if a male idle's image is used for the main image, it will be thought that it charms and becomes easy to follow a female play person. On the other hand, if the image of beautiful scenery is used for the main image, it will be thought that a play person is charmed regardless of man and woman. Moreover, this invention is applicable to the game to which a play person is made to do the virtual experience of the action which photos one scene of a sport. A play person can be made to specifically do the virtual experience of the action which photos contestants, such as sports combative, such as ball games, such as baseball, soccer, a basket, and tennis, and karate, professional wrestling, or skiing, and a skate. Furthermore, the virtual experience of the photography actions, such as a singer's photography sung in photography, song program, and concert of ball-race cars, such as F1 and a motorcycle, can be carried out. That is, what is necessary is just to choose this main image as arbitration according to a play person's layer aimed at as a customer. Moreover, a still picture is sufficient as the main image, and an animation is sufficient as it. When the main image is used as an animation, a play person comes to do the virtual experience of the photography action in a near form by the case of actual photography at the point that a photographic subject moves. Moreover, since it also becomes possible to prepare change in expansion of the main image, or to give change to the speed of expansion, there is also an advantage that the difficulty of an image pick-up game comes to be changed free. Although considering as an animation is also possible, if it carries out from the point that evaluation is easy, as for the selection image in this case, considering as a still picture is desirable.
[0009] Said evaluation means may be constituted how, as long as it shows a play person this evaluation,

while performing evaluation to a selection image. For example, if it is the case where the selection image is formed by 3D polygon, it calculates each time from the ratio of the area of the person who occupies in a selection image, and the area of a background etc., and a selection image can be evaluated. Moreover, it can also constitute by contrasting the selection image data generated by actuation of a record means to by_which the evaluation data for selection image evaluation beforehand prepared in the evaluation means about each all the selection image data's [that may be generated] were recorded, and a play person's input means with the data recorded on said record means so that a contrast means carry out the evaluation about the selection image concerned may contain. In addition, the voice output from the loudspeaker equipment which could perform presentation to the play person of evaluation how, for example, was connected to game equipment can also show a play person evaluation, and this can also be made by the display on a display unit.

[0010] Moreover, the game equipment by this invention should be further equipped with a voice data generation means to generate voice data based on a play person's voice inputted from predetermined microphone equipment. And the main image data generation means of this game equipment can be constituted so that the main image data in which said voice data was made to reflect may be generated. For example, the cameraman who does gravure photography has often taken a photograph, speaking to the model used as a photographic subject, in order to make a model relax. Therefore, since the game equipment of this invention which generated the main image data in the form in which appearance without a play person's voice data inputted from predetermined microphone equipment is made to reflect can reproduce the scene of the gravure photography like **** faithfully, it can perform the virtual experience of a photography action in a much more real ambient atmosphere.

[0011] It shall be constituted so that the contents of the voice which should input into microphone equipment may direct to a play person in addition to the timing as which this game equipment that made voice input from microphone equipment possible shall be equipped with an utterance directions means direct the timing which should input voice into microphone equipment to a play person, and this utterance directions means should input voice into microphone equipment. Such an utterance directions means can perform [a game person] utterance now reasonable by making it direct the timing and the contents of utterance to a game person.

[0012] Game equipment equipped with the utterance directions means like **** While judging the accuracy to the contents of the timing which should input the voice directed by said utterance directions means of the voice which the play person inputted, and the voice which should be inputted It has an utterance judging means to generate the voice judging data which are data in which extent of the correctness is shown, and said main image data generation means can be constituted so that the main image data in which said voice judging data were made to reflect may be generated. By establishing such an utterance judging means, in order to give change to the contents of the main image displayed on a display unit with extent of the accuracy of utterance, the motivation to utterance can be given to a play person. Change of the main image can be attained by making the main image data generation means into the following, for example. That is, it constitutes so that the probability that evaluation with the expensive selection image with which the case where extent of the accuracy shown with voice judging data was higher was chosen in the main image data generation means based on the main image can be obtained may become high and the main image data may be generated. If it does in this way, the motivation about utterance can be given to the play person who desires the main image which can be easy to obtain high evaluation about a selection image.

[0013] Moreover, the play equipment of this invention shall be further equipped with the 1st selection timing directions means to show a play person whether evaluation high about said selection image can be obtained, if a play person operates said input means at which time. If it sees from a play person, it is difficult to predict the objective rating to the selection image it is considered that is a photograph etc., to operate an input means to suitable timing, and to generate a selection image. Then, the cue about input means actuation comes to be given by the play person by telling a play person about which hit of the flow of the whole game advance the timing which can obtain high evaluation is. Moreover, when the play person operated said input means at the time and evaluation higher than the predetermined

evaluation defined beforehand is able to be obtained, the play equipment of this invention shall be further equipped with the 2nd selection selection timing directions means to show a play person it, and shall be constituted. A play person can acquire now the cue about input means actuation also by this. In addition, although it complains of the 1st selection timing directions means of this invention, and the 2nd timing directions means to what of a play person's senses, they can perform these directions possible [a check by looking], for example.

[0014] The input means of the game equipment concerning this invention may be constituted how, as long as it can input the information for choosing the predetermined range in the main image displayed on the display unit. For example, a general joy stick, a general push button, etc. can also constitute this input means. The input means of this invention which enabled it to input the information for choosing the predetermined range in the main image displayed on the display unit is constituted so that the 1st information for making the location of said selection image in the inside of said main image and the magnitude of said selection image change and the 2nd information for determining a selection image can be inputted for example. Moreover, this input means shall be equipped with the display unit for selection which displays the image determined as a selection image if the 2nd information is inputted. Since the input of the 1st information and the 2nd information can be performed while a game person always checks the image determined as a selection image with an input means equipped with such a display unit for selection, it becomes easy to input such information.

[0015] Moreover, the input means in the game equipment of this invention shall be constituted including the false camera of the configuration which imitated the camera. By doing in this way, it comes to bring close the ambient atmosphere of the false photography performed with the game equipment performed with this game equipment according to the ambient atmosphere of actual photography. When the input means contained the false camera which imitated the configuration of a camera, the above-mentioned display unit for selection should imitate the finder of a camera to the false camera concerned, and should be formed in it. Since the finder of a camera is a part as which the image determined as an image which should be photoed when shutter operation of the same property as the 2nd information is carried out is displayed, If the 2nd information is inputted, and if the image chosen as the 2nd image is displayed on the display unit for selection which imitated the finder of a camera Since a game person can operate an input means with the feeling same with operating a real camera, it becomes that it is easy to make a game person understand a game system.

[0016] Moreover, the game equipment by this invention shall be further equipped with an access information presentation means to show a play person the access information for accessing the computer of which read-out of said selection image data was made possible via a communication line from the record means which recorded selection image data under predetermined conditions. And it can constitute so that the play person shown access information can obtain the selection image data about the selection image chosen by itself via said computer. Since a game person can come to hand [the image data about the selection image itself chosen with game equipment] according to such game equipment, its own image can come to hand like the case where a photograph is actually taken. Moreover, if it is made such a configuration, since it will become unnecessary to form the printer for selection image printing in game equipment, it becomes, without complicating the configuration of game equipment in vain. Here, a wire communication circuit is sufficient as the above-mentioned communication line, and a radio circuit is sufficient as it. If a radio circuit is used, selection image data can come to hand with Personal Digital Assistants, such as a cellular phone and PHS.

[0017] Moreover, the game equipment of this invention shall be changed into the above-mentioned access information presentation means, and shall be equipped with an e-mail address receptionist means to receive the e-mail address which the play person inputted. This game equipment can make the selection image data about the selection image which the play person who inputted the e-mail address into the predetermined computer of which read-out of said selection image data was made possible chose from the predetermined record means which recorded selection image data able to read, and it can be constituted so that said selection image data may be sent to this e-mail address. Moreover, the game equipment of this invention shall be changed into the above-mentioned access information presentation

means and an e-mail address receptionist means, and shall be equipped with the connecting means which can send selection image data to a Personal Digital Assistant. This game equipment can read said selection selection image data from the predetermined record means which recorded selection image data, and it can constitute it so that said selection image data may be sent to the Personal Digital Assistant connected to said connecting means through said connecting means. A play person can be provided now with selection image data by the configuration which was described above.

[0018] Moreover, this invention is realizable also by making computer apparatus, such as a game special-purpose machine or a general-purpose home computer, perform the approach like a less or equal. This approach can be made into the following, for example. Namely, the control means which controls activation of a game based on the contents of actuation which the play person inputted from a predetermined input means, It is the approach performed by game advance at a predetermined display unit by computer equipped with the main image data generation means for generating the main image data for displaying the required main image. The process in which said main image data generation means displays the main image on said display unit, Said control means is based on the contents of actuation which operated said input means and the play person inputted. While determining the predetermined range in the main image displayed on said display unit as a selection image and generating the selection image data which is image data about this selection image While regarding it as the image which performed the process in which performed evaluation to the selection image specified by this selection image data, and this evaluation was shown to a play person, and photoed the selection image with the camera It is the control approach of game equipment of making a play person doing false experience of the photography action by showing evaluation of said image photoed to the play person with said evaluation means.

[0019] Moreover, it can succeed in this by making the program code recorded, for example on the record medium like a less or equal read into a computer apparatus, in order to operate a computer apparatus as game equipment concerning this invention. Namely, the control means which controls activation of a game based on the contents of actuation which the play person inputted from a predetermined input means, The computer equipped with the main image data generation means for generating the main image data for displaying the required main image to a predetermined display unit at game advance It is the record medium with which the program code for making it function as game equipment which performs the game which makes a play person do false experience of the photography action was recorded. While performing processing which makes said main image data generation means generate said main image data for displaying the main image to said display unit The processing which determines the predetermined range in the main image displayed on said control means by said display unit based on the contents of actuation which operated said input means and the play person inputted as a selection image, While generating the selection image data which is image data about this selection image The program code for performing processing which performs evaluation to the selection image specified by this selection image data, and processing which generates the data for showing a play person this evaluation is the record medium recorded with the computer-readable gestalt. In addition, the program codes said on these specifications are data required in order to make game equipment perform a game in addition to program itself, and a concept containing a control parameter etc.

[0020] When realizing the game equipment applied to this invention with computer apparatus, such as a game special-purpose machine or a general-purpose home computer, the input means with which the computer apparatus concerned is equipped can constitute the input means. However, in order to make false experience of photography much more real, it is desirable to use the input means containing the false camera like ****. In such a case, it is solvable with the component part like a less or equal. Namely, a main image data generation means to generate the main image data which is image data for displaying the main image on a predetermined display unit, Based on the contents of actuation which operated the predetermined input means and the play person inputted, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, While it has an evaluation means to show a play person this evaluation while performing evaluation to

the selection image specified by this selection image data, and regarding it as the photograph which photoed the selection image with the camera It is the component part contained in the input means of the game equipment which consists of showing evaluation of the image photoed to the play person with said evaluation means so that a play person may be made to do false experience of the photography action, and is the component part constituted including the false camera made into the configuration which imitated the camera. And this component part shall be equipped with the 2nd input means for inputting the 2nd information for determining a selection image as the 1st input means for inputting the 1st information for making the location of said selection image in the inside of the main image, and the magnitude of said selection image change, and shall be constituted.

[0021] Next, it explains per [by this invention] photography action simulation equipment. The photography equipment simulation equipment by this invention can be considered as the same configuration as the above-mentioned game equipment and abbreviation, and makes the point which makes the evaluation means like the above unnecessary difference with game equipment. Moreover, the part which is not related to the evaluation means in the above-mentioned game equipment is applicable also to this simulation equipment. The photography simulation equipment by this invention For example, a main image data generation means to generate the main image data which is image data for displaying the main image on a predetermined display unit, Based on the contents of actuation as which the operator operated and inputted the input means, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, It has the presentation means for showing an operator the selection image based on this selection image data, and can constitute from regarding it as the image which photoed the selection image with the camera as photography action simulation equipment constituted so that an operator may be made to do false experience of the photography action. This photography action simulation equipment is easily realizable by installing the program recorded on computer apparatus, such as a general-purpose home computer, by the record medium like a less or equal. Namely, the computer equipped with the control means for performing photography action simulation based on the contents of actuation which the operator inputted from a predetermined input means It is the record medium with which the program code for making it function as photography action simulation equipment which makes an operator do false experience of the photography action was recorded. This program code The processing which generates the main image data for generating the main image data for displaying the required main image to a predetermined display unit at said control means at game advance, The processing which makes said main image data for displaying the main image on said display unit generate, While determining the predetermined range in the main image displayed on said display unit as a selection image based on the contents of actuation which operated said input means and the operator inputted The processing which generates the selection image data which is image data about this selection image, The program code for performing processing which generates the data for a display for displaying the selection image based on this selection image data on said display unit is the record medium recorded with the computer-readable gestalt. Moreover, the photography action simulation equipment by this invention A main image data generation means to generate the main image data which is image data for displaying the main image on a predetermined display unit, Based on the contents of actuation as which the operator operated and inputted the input means, the predetermined range in the main image displayed on said display unit is determined as a selection image. A selection image data generation means to generate the selection image data which is image data about this selection image, By regarding it as the image which is equipped with the selection image data offer means for providing a runner person with this selection image data through a predetermined transmitting means to send selection image data, and photoed the selection image with the camera It is realizable also as photography action simulation equipment constituted so that an operator may be made to do false experience of the photography action. This photography action simulation equipment is easily realizable by installing the program recorded on computer apparatus, such as a general-purpose home computer, by the record medium like a less or equal. Namely, the computer equipped with the control means for performing photography action

simulation based on the contents of actuation which the operator inputted from a predetermined input means It is the record medium with which the program code for making it function as photography action simulation equipment which makes an operator do false experience of the photography action was recorded. This program code The processing which generates the main image data for generating the main image data for displaying the required main image to a predetermined display unit at said control means at game advance, The processing which makes said main image data for displaying the main image on said display unit generate, While determining the predetermined range in the main image displayed on said display unit as a selection image based on the contents of actuation which operated said input means and the operator inputted The program code for performing processing for providing an operator with said selection image through a predetermined transmitting means to send the processing which generates the selection image data which is image data about this selection image, and this selection image data is the record medium recorded with the computer-readable gestalt. Here, processing for providing an operator with said selection image is performed as functions, such as the above-mentioned access information presentation means, an e-mail address receptionist means, and a connecting means.

[0022]

[Embodiment of the Invention] Hereafter, the desirable 1st operation gestalt of this invention and the 2nd operation gestalt are explained with reference to a drawing.

[0023] The operation [1st] gestalt: Drawing 1 thru/or drawing 11 are drawings for explaining the game equipment by the 1st operation gestalt of this invention. In addition, this game equipment can also be used as photography action simulation equipment. As the appearance perspective view of drawing 1 showed, the game equipment 100 by the 1st operation gestalt of this invention comes to equip various components within and without a case 101. A play person will stand into this case 101, and will perform a game. A display unit 102, the loudspeaker equipment which is not illustrated, and the controller panel 103 are attached in the front face of the interior of a case 101.

[0024] A display unit 102 consists of CRT and displays predetermined images including the main image under control by the below-mentioned image control unit which has a function as an image data generation means of this invention. Loudspeaker equipment is controlled by the below-mentioned sound control unit, and outputs a predetermined sound.

[0025] The coin slot and start ** of an abbreviation of illustration are attached in the controller panel 103. A coin slot is input port for throwing in a coin required for game initiation. Start ** can input a game initiation instruction now by pushing it. Moreover, the input unit 104 equivalent to the input means of this invention is attached in the controller panel 103.

[0026] The input unit 104 has **** composition shown in drawing 2 . That is, an input unit 104 supports the false camera 105 and the false camera 105, and is constituted including the connection object 106 which connects the controller panel 103. The connection object 106 is the member of the shape of the rod caudad equipped with engagement heights 106A. This engagement heights 106A is inserted in controller panel 103 front face along with guide rail 103A in the condition which can slide into guide rail 103A cut in the longitudinal direction. In addition, engagement heights 106A formed the point in the width of face which consists of width of face of opening of a guide rail 103 size at point **, from the guide rail 103, does not have dedropping and has come it. On the other hand, the connection object 106 is the upper limit section, and is supporting the false camera 105 through the hinge which is not illustrated. By the above configurations, as it ****(ed) to drawing 2 , the false camera 105 can be moved now to a longitudinal direction, and can be rotated now in the vertical direction. The location of the longitudinal direction of the false camera 105 is detected by the right-and-left position sensor of an abbreviation of illustration. That is, a game person can input the information for changing the right-and-left location of the selection image in the main image by moving the false camera 105 to a longitudinal direction. Moreover, the angular position of the vertical direction of the false camera 105 is detected by the vertical position sensor of an abbreviation of illustration. That is, a game person can input the information for changing the vertical location of the selection image in the main image by moving the false camera 105 to a longitudinal direction. Moreover, the false camera 105 is made adjustable in the

location in every direction, and it can be rotated now 90 degrees so that the time of establishing in the time of establishing a camera sideways and longitude can be reproduced. The location of the false camera 105 in every direction is detected by the in-every-direction location sensor of an abbreviation of illustration. That is, a game person can input the information for making the aspect ratio of the selection image in the main image exchange by moving in the direction of the false camera 105 in every direction. The false camera 105 is made into the configuration which imitated the camera, and is constituted from this operation gestalt by the configuration which imitated general 1 eye REFUKAMERA. Moreover, shutter ** 105A is prepared in the top face of a false camera. This shutter ** 105A can input now the 2nd information for determining a selection image by pushing it in. Moreover, the part applicable to the lens-barrel of the camera in the false camera 105 is zoom switch 105B. This zoom switch 105B is constituted rotatable considering the cylindrical core as a shaft, and when that game person rotates it, it can input the information for changing the magnitude of the selection image in the inside of the main image. Moreover, when the 2nd information is inputted by actuation of shutter ** 105A, display unit 105C for selection for displaying the image determined as a selection image imitates the finder of a camera in the tooth-back section of the false camera 105, and is prepared in it. The image displayed on display unit 105C for selection receives control by the image control unit like the case of a display unit 102. Although this display unit 105C for selection is not restricted to this, a liquid crystal display constitutes it. By the configuration of such an input unit 104, a game person can input now the 1st information for making the location of the selection image in the inside of the main image, and the magnitude of said selection image change, and the 2nd information for determining a selection image with the feeling same with operating an actual camera. In addition, microphone equipment 105D is attached in the upper part of the false camera 105. this microphone equipment 105D is ** which inputs a game person's voice, and can gather now utterance of the game person who stands in front of a display unit 102, and is performing the game.

[0027] Drawing 3 is drawing showing the hardware configuration of game equipment 100. So that clearly from this drawing game equipment 100 CPU120 which is constituted considering a microprocessor as a subject and performs various kinds of operations and motion control required for advance of a game, The screen drawing control unit 121 which draws a desired image to a display unit 102 according to the instruction from CPU120, It has the sound control unit 122 to which a desired sound is made to output from loudspeaker equipment 107 according to the instruction from CPU120, and RAM124, ROM125 and the auxiliary storage unit 126 as a storage means. The sound control device 122 makes the sound corresponding to reception and those data for PCM data and ADPCM data which were recorded on the auxiliary storage unit 126 output from loudspeaker equipment 107 according to the directions from CPU120. The so-called hard disk storage equipped with the magnetic storage medium is built in the auxiliary storage unit 126.

[0028] Each above-mentioned control devices 121 and 122, RAM124 and ROM125, and an auxiliary storage unit 126 are connected with CPU120 through the bus 127. Moreover, above-mentioned shutter **105A, zoom **105B, display unit 105C for selection, microphone equipment 105D, and right-and-left position-sensor 108A, vertical position-sensor 108B, in-every-direction location sensor 108C, start ** 110, and coin management equipment 111 are connected to CPU120 through the bus 127. Coin management equipment 111 manages the propriety metallurgy frame of the coin thrown in from the coin slot.

[0029] A program and data required in order to control the basic actuation at the time of starting of game equipment 100 etc. are written in ROM125. Image data required to display the main image used with game equipment 100 etc. is written in the auxiliary storage unit 126. This data is loaded to the predetermined field of RAM124 according to the command from CPU50.

[0030] Drawing 4 is the functional block diagram showing the internal configuration of game equipment 100. This game equipment 100 becomes including the directions information analysis section 201, the game control section 202, the main image data-logging section 203, the main image data generation section 204, the utterance directions data-logging section 205, the utterance directions data generation section 206, the image control section 207, the image data generation section 208 for selection, the

selection image data generation section 209, the output sound data generation section 210, and the output sound control section 211 so that clearly from this drawing.
[0031] It connects with start ** 110, coin management equipment 111, and an input unit 204, and the directions information analysis section 201 analyzes the contents of actuation inputted from these, and transmits the meeting contents of ** to a game control section.
[0032] The game control section 202 is a part which performs control of the game on-going main image data generation section 204, the utterance directions data generation section 206, the image data generation section 208 for selection, the selection image data generation section 209, the output sound data generation section 210, and the output sound control section 211, and manages game advance substantially. A photography game is controlled by this operation gestalt. According to the information on game initiation that it was specifically inputted from the payment information and start ** 110 which were inputted from coin management equipment 111 etc., game initiation is permitted or the game expansion under activation is controlled.
[0033] The image data about all the main images that may be displayed on a display unit 102 at the time of game advance is recorded on the main image data-logging section 203. Since each main image in the game equipment of this operation gestalt is used as the animation, let each image data about the main image be a video data. Although a person, scenery, etc. do not have a limit especially as for the contents of the main image, with this operation gestalt, the image of a female model turns into the main image. About this, it mentions later.
[0034] Based on the information from the game control section 202, the main image data generation section 204 reads image data from the above-mentioned main image data-logging section 203, and generates the main image data. Based on this main image data, the main image suitable on a display unit 102 will be displayed. The configuration of the main image data generation section 204 is explained in full detail with reference to drawing 5 . Data generation section 204A and voice judging section 204B are contained in the main image data generation section 204. Data generation section 204A generates the main image data based on the game control section 202 or the data from voice judging section 204B by reading image data from the main image data-logging section 203, and makes the core of the main image data generation section 204. Voice judging section 204 B corresponds to the voice judging means by this invention, and has the function of judging the extent, about it being exact to the contents of the timing into which the voice which the game person inputted from microphone equipment 105D through the contents analysis section 201 of directions and the game activation section 202 uttered should input the voice showed on a display unit 102 with the data from the below-mentioned utterance directions data generation section 206, and the voice which should input. Voice judging section 204B of this operation gestalt judges the accuracy about utterance timing and contents by contrasting the information about the timing and contents of utterance read from the utterance directions data-logging section 205, and the information inputted from microphone equipment 105D. And this voice judging section 204B generates the voice judging data which are data in which extent of the accuracy of utterance is shown, and it is constituted so that it may send to data generation section 204A.
[0035] The data for directing the timing of right utterance and the contents of utterance to a play person are recorded on the utterance directions data-logging section 205. The utterance directions data generation section 206 generates the data for showing the above-mentioned directions on a display unit 102. These data will be sent to the image control section 207, and will be displayed on a display unit 102.
[0036] The image data generation section 208 for selection will generate the image data for displaying the image ("the image for selection" being called by the case.) determined as a selection image on above-mentioned display unit 105C for selection, if the 2nd information is inputted by actuation of shutter ** 105A. Since the images for selection are some main images, the image data for the image display for selection is generated based on the data inputted as the main image data through the directions information analysis section 201 from the vertical position sensor 108, the right-and-left position sensor 109, and zoom switch 105B. The image data for the image display for selection is sent to display unit 105C for selection, and controls this display unit 105C for selection.

[0037] The selection image data generation section 209 generates the selection image data about the selection image which is an image of a certain range in a certain moment of in the main image displayed as a dynamic image. The configuration of the selection image data generation section 209 is shown in drawing 6 . It is constituted by the selection image data generation section 209 including data generation section 209A and evaluation section 209B which makes a part of evaluation means in this invention. Data-logging section 209C for evaluation applicable to the record medium which recorded the data for evaluation in this invention, and contrast section 209D equivalent to the contrast means of this invention are contained in the evaluation section 209. Data generation section 209A is constituted so that the data of the image for selection at the time may be received from the image data generation section 208 for selection, and when the 2nd information is inputted from shutter **105A through the directions information analysis section 201 and the game control section 202, it determines the image for selection at the time as a selection image. Evaluation section 209B generates the evaluation data about evaluation of the selection image concerned based on the selection image data received from data generation section 209A. If it explains in full detail more, to above-mentioned data-logging section 209C for evaluation The evaluation data for selection image evaluation prepared beforehand are recorded about each of all the selection image data that may be generated. Contrast section 209D Evaluation data are generated per each selection image by contrasting the selection image data received from data generation section 209A, and the data read from data-logging section 209C for evaluation. This evaluation data is sent to the image control section 204 with selection image data, and is reflected in the display of a display unit 102.

[0038] The output sound control section 211 controls loudspeaker equipment 107, and outputs a predetermined sound from loudspeaker equipment 107 based on the output sound data which the output sound data generation section 210 generated under directions of the game control section 202.

[0039] Next, suppose that 1 operation gestalt of the control approach of the game equipment by this invention is explained by explaining per actuation of above-mentioned game equipment. The flow of the processing performed with this game equipment is roughly shown in drawing 7 .

[0040] A photography game is started, when a play person throws a predetermined coin into a coin slot and pushes start ** (S301). The information about what the coin of the suitable frame from coin management equipment 111 was thrown into coin input port for, and the information about what start ** was pushed for are specifically inputted into the directions information analysis section 201, and the game control section 202 which received this information directs game initiation to each functional block.

[0041] Processing of a model selection is performed with game initiation (S302). It says making a decision about the thing who a model selection makes the model which should be used as a photographic subject make to a play person. When the image control section 207 which received the directions from the game control section 202 generates the data of the image which demands a model selection from a play person and specifically sends this to a display unit, the image for a model selection is displayed on a display unit 102. Although illustration is omitted, let the image for a model selection be the following, for example. Namely, it displays on a display unit 102 by using as the image for a model selection what displayed the image of two or more persons', for example, three persons, female model lining up side-by-side with the identifier. A play person performs the declaration of intention about the thing whether to use which model as a photographic subject, by actuation of an input device 104. With the game equipment 100 of this operation gestalt, the model to choose is determined by changing the model chosen by migration of the longitudinal direction of the false camera 105, and pushing shutter ** 105A.

[0042] If processing of a model selection is performed next, processing of a story selection will be performed (S303). It says making a decision about the thing what kind of thing a story selection makes the environment which should photo a photographic subject make to a play person. When the image control section 207 which received the directions from the game control section 202 generates the data of the image which demands a story selection from a play person and specifically sends this to a display unit, the image for a story selection is displayed on a display unit 102. Although illustration is omitted,

let the image for a story selection be the following, for example. Namely, it displays on a display unit 102 by using as the image for a story selection what displayed the image which stands still at the environment where the models chosen previously differ lining up side-by-side with the title about the environment. For example, the image in which each environment which performs a photography game in the same environment as a studio photography meeting, and which takes a photograph in a summer resort where a photograph is taken in the middle of a date [in a park] is shown is displayed with a title. A play person performs the declaration of intention about the thing whether to choose which story, by actuation of an input unit 104. With the game equipment 100 of this operation gestalt, the story to choose is determined by changing the story chosen by migration of the longitudinal direction of the false camera 105, and pushing shutter ** 105A.

[0043] After processing of a story selection finishes next, the first stage of a photography game is started (S304). In photography game initiation, the **** image shown in drawing 8 is displayed on a display unit 102. This display is controlled by the main image data generated when the main image data generation section 203 which received the directions from the game control section 202 read the image data recorded on the main image data-logging section 203. That is, like ****, directions of the purport which reads the image data corresponding to the data for choosing the model and story which were inputted are sent to the main image data generation section 205 from the game control section 202, and the main image data generation section 205 performs processing which reads the data about the main image corresponding to the selected model and the selected story from the main image data-logging section 203 based on this.

[0044] It explains per contents of the image shown in drawing 8 displayed on a display unit 102. The inside S of drawing 8 is the main image, and is expressed as this operation gestalt as an animation. The sequential array of the selection image which W is a frame for selection image display, and was generated by actuation of a play person's shutter ** 105A is carried out. H is an evaluation gage and the display in which a rod-like evaluation bar expands and contracts the inside of a rectangular frame is made. The bar is shown by the gray in drawing and it means that evaluation of a selection image is so high that this is long. T is a time gage and shows a play person the residual time which can perform a photography game. The overall length of the time gage T is equivalent to the time amount which can perform a photography game, and residual time is displayed by performing the display for which Mobile I is accompanied and moved to a time gage. In an example of the 1st selection timing directions means as used in the field of [B1 is a best scene distribution gage, and] this invention. The best scene distribution gage B1 is displayed on a display unit 102 as a bar meeting the time gage T, and the die length of it comes to be the same as the die length of a time gage. And it indicates at which time of a time gage if shutter ** 105A is operated at the time, the main image S which can obtain high evaluation will be displayed by change of the color arranged on the bar, a notation, etc. beforehand. The color of three colors according to the height of the evaluation which operates shutter ** 105A and is obtained at that time is allotted to the best scene distribution gage B1 in this operation gestalt, and, thereby, a play person can prepare the alignment for operating shutter ** 105A now beforehand for it. In an example of the 2nd selection timing directions means as used in the field of [B-2 is heart mark navigation and] this invention. Heart mark navigation B-2 is displayed as a notation of a heart mark mold on a display. This heart mark navigation displays that possible [a check by looking of a play person], when shutter ** 105A is operated at that time and the evaluation higher than predetermined evaluation about a selection image can be obtained. When it specifically becomes the timing concerned which can obtain high evaluation, a display is controlled [making a heart mark expand and contract and], or it is performed that it is as controlling a display **** so that the color of a heart mark may be changed.

[0045] The play person generates the selection image, looking at the above main images. A play person can use the image displayed on display unit 105C for selection attached in the false camera 105 in generation of a selection image. This image is generated as mentioned above by the image data generation section 208 for selection using the main image data. The image which cut off the predetermined range in the main image more specifically specified by these inputs based on the input from each sensor of right-and-left position-sensor 108A inputted by actuation of the false camera 105 by

the play person, vertical position-sensor 108B, and in-every-direction location sensor 108C is displayed on display unit 105C for selection as an image for selection. An example of the image displayed on display unit 105C for selection as an image for selection is shown in drawing 9 (a) and (b). It has become some images with which drawing 9 (a) and (b) were displayed on the display unit 102. Moreover, a zoom is enlarged rather than the image with which the image shown in drawing 9 (b) was shown in drawing 9 (a). while a play person looks at this image for selection -- the false camera 105 -- operating it -- here -- ** -- shutter ** 105A is pushed in to the timing to consider. The information on a purport that shutter ** 105A was pushed in is told through the directions information analysis section 201 and the game control section 202 to the selection image data generation section 209, and data generation section 209A in the selection image data generation section 209 generates selection image data based on this data. In addition, when shutter ** 105A is pushed, 1/100 second -1 / control which is displayed black about 10 seconds will be performed for the whole screen of display unit 105C for selection, and production which gives a play person the same feeling as the case where a shutter is cut with a camera can be performed. In this case, if a display to which the part displayed black by reverse motion decreases is performed after increasing the part displayed on those long side and parallel black, and the part displayed black being put together and displaying the whole screen black from both the long sides of the screen of display unit 105A for selection, the same feeling as the time of cutting the shutter of a camera will come to be given by the play person still more strongly. Moreover, when performing production which displays the whole screen of display unit 105A for selection black, it is desirable to perform control which carries out a short-time halt of the image for selection currently shown immediately after that by display unit 105A for selection. It comes to be made to perform the check about the thing what kind of selection image was generated, by carrying out like this by the play person. Selection image data is sent to comparator 209D from data generation section 209A. In comparator 209D, evaluation of a selection image is performed by contrast with the data read from data-logging section 209C for evaluation, and the data about evaluation of a selection image are generated. This data is sent to the image control section 207 with selection image data. In addition, evaluation of a selection image may be carried out what. For example, the height of evaluation can also be defined according to a certain principle about the whole composition, and it is also possible to set up highly evaluation of the photograph with which a female model is likely to be pleasing. If it says in the example of drawing 9 , since it will be thought that the selection image of (a) has large possibility that it will be liked better than the selection image of (b) if it carries out from a female model, evaluation of the selection image of (a) can be more highly set up rather than the case of the selection image of (b).

[0046] If the above-mentioned data are sent to an image control section, as drawing 10 showed, a sequential indication of the selection image is given at the above-mentioned frame W. According to the sense of a selection image in every direction, a frame changes the sense and is displayed. In addition, with the game equipment of this operation gestalt, the height of the evaluation about that selection image is also expressed on a display unit 102. For example, change of the color of Frame W can express height of this evaluation. Although change of the sense of the above-mentioned selection image in this operation gestalt in every direction is performed by modification of the sense of the false camera 105 in every direction Even if it does not change the sense of the false camera 105 in every direction to the false camera 105, the input unit constituted by the push button in order to input the information to which the change of the sense of a selection image in every direction is urged is prepared. By actuation of this input unit The sense of a selection image in every direction can be changed. The information mentioned above for urging the change of the sense of a selection image in every direction is generated by operating the above-mentioned input unit, and is sent to the image data generation section 208 for selection through in-every-direction location sensor 108C. By this, the image for selection of a suitable location in every direction will be generated. In addition, when such a configuration is adopted, it is possible that the sense of the image displayed on display unit 105C for selection in every direction and the sense of the selection image obtained as a result in every direction are not in agreement unlike the case where false camera 105 the very thing is rotated. Then, when a configuration equipped with the input device for changing the selection image sense in every direction like **** is adopted, the sense of

the image displayed on display unit 105C for selection in every direction can be changed as shown in drawing 10 . The part which the part shown by the drawing bullet is the display screen of display unit 105C for selection, and was shown in white is the range where the image for selection is displayed. Thus, by changing the sense of the image for selection in every direction, when shutter ** 105A is pushed, the display unit 105C desired end for selection of always showing a play person a selection image and the becoming image can be achieved.

[0047] On the other hand, if a photography game progresses and fixed time amount passes, the utterance directions data generation section 206 will generate the data for displaying the image for read-out and utterance directions for data on a display unit 102 from the utterance directions data-logging section 205. According to this data, the display for directing the timing and the contents (language which should be uttered) of utterance is displayed on a display unit 102. What kind of thing may be used for the timing of utterance, and directions of the contents. Suppose that utterance of the language of the contents which uplifts the temper of a female model is directed to a play person as contents of utterance with this operation gestalt. these directions were shown in drawing 11 -- as -- for example, -- " -- dying -- ****** [ ] -- it is very good -- it can be based on the display in the alphabetic character -." If timing of utterance can be uttered before only predetermined time displays this alphabetic character and it disappears or it is proper that it is made to utter as early as possible, if this alphabetic character is displayed, it will set up supposing that it is proper etc. suitably.

[0048] Utterance which the play person performed is inputted from microphone equipment 105D. And the information about utterance which the play person performed is sent to voice judging section 204B in the main image data generation section 204 through the support information analysis section 201 and the game control section 202. Voice judging section 204B generates the voice judging data about the timing of voice input, and the accuracy of the contents by contrasting read-out, and this and the above-mentioned data for data from the voice directions data-logging section 205. This voice judging data is sent to data generation section 204A, and data generation section 204A generates read-out and the main image data for the data about the main image in which voice judging data were made to reflect from the main image data-logging section 203. For example, a female model displays the image of removing a coat or inviting in to the room, as a main image so that it may mean that the temper of the woman of a model rose by utterance. The main image in which voice input was made to reflect will be displayed on a display unit 102 by such processing.

[0049] A stage is completed when the time limit which generated the selection image of the number of sheets of a convention of a game person, or was defined passes (S305). in addition, a stage -- on the way -- the case where came out and evaluation of a selection image becomes remarkably low -- directions of the game control section 202 -- compulsory -- a game -- it becomes exaggerated. Termination of each stage performs the judgment of whether the stage was the last stage (S306). If the stage is the last stage (S306:YES), the last results will be displayed on a display unit 102, and a game will be completed (S307). In addition, when it is able to clear to the last stage, access information is displayed on a display unit 102 by directions of the game control section 202. This access information includes the information about the address of a homepage, and the information about the password for pulling out the selection image data about the selection image chosen by itself through that homepage. The above-mentioned password is written down and a game person can access the computer of which read-out of said selection image data was made possible from the record means which recorded selection image data via the communication line of the Internet and others from a predetermined computer. And a game person can come to hand [the selection image data about the selection image chosen by itself] now through the computer. In addition, it can make it possible for the selection image data like **** to come to hand using a radio circuit using Personal Digital Assistants, such as a cellular phone and PHS. Moreover, although basing-on this invention game equipment 100 omits illustration, it shall be equipped with the input unit which it consisted of with the keyboard in order to receive the input of an e-mail address from a play person. And the above-mentioned selection image data can be transmitted to the predetermined e-mail address which the play person inputted through this input unit. Moreover, although the game equipment 100 by this invention omits illustration, it shall be equipped with connections, such as a

connector which performs an exchange of a Personal Digital Assistant and data. If it is game equipment 100 equipped with such a connection, even if it is not a communication line course, it can read from game equipment 100 to a play person's Personal Digital Assistant directly by connecting a play person's Personal Digital Assistant to the connection of game equipment 100. In this case, you may make it display the image based on the read selection image data on the display with which the Personal Digital Assistant is equipped. The image data which can be pulled out can also be made into specific image data common not only to the data about the selection image chosen by itself but each play person. Moreover, since the selection image in this operation gestalt is a still picture, selection image data is made into the image data of for example, the JPEG format about a still picture, but a play person can be provided with the selection image data of for example, the MPEG4 format about an animation when using a selection image as an animation.

[0050] The following processings are continued when the stage is not the last stage (S306:NO).

[0051] Termination of a stage displays comprehensive evaluation of the stage on a display unit 102. the evaluation displayed -- the highest -- S -- he is trying to be set to E by A+, A-, B+--, D+, D-, and the minimum subsequently

[0052] Subsequently, processing of the story selection like **** is performed and the 2nd stage is started. In the story selection processing in this case, a limit is applied to the story which can be chosen with the results of a front stage. The story from which it is displayed on a display and a game person becomes selectable when the comprehensive results of a front stage are E, D+, and D- Namely, one The story as which the story displayed on a display when the comprehensive results of a front stage are C+, C-, B+, and B- is displayed on a display when two and the comprehensive results of a front stage are A+, and A, -, S is set to three (front story). In addition, about the story which cannot be chosen, although processing which is not displayed at all may be performed, processing which bets a mosaic and instigates a game person's regret may be performed. The stage of the above-mentioned beginning and the 2nd same stage are performed after this story selection processing, and after the 2nd stage is completed, comprehensive evaluation of the stage is displayed like the case where it is a ****. Subsequently, story selection processing is performed and the 3rd stage is performed. In addition, drawing 12 shows notionally the list of the stages which can be chosen. "Branching" shown in drawing 12 means that the main image displayed on a display unit 102 changes with extent of the accuracy of voice input.

[0053] Moreover, on each stage, when some specific conditions are fulfilled, it is also possible to make selectable a bonus stage other than the above-mentioned stage shown by drawing 12 . A different production from other stages can also be made on this stage. For example, with this game equipment 100, once it pushes shutter ** 105A, burst mode into which the 2nd information for determining a selection image continuously is inputted can be performed.

[0054] In addition, it is able for a stage to take for progressing and to make the contents of above-mentioned voice input altitude with this game equipment 100. for example, the input of the voice of the contents of "here here" in the first stage -- requiring -- the next stage -- "-- dying -- ****** and here -- " -- ** -- the input of the voice of the contents to say -- requiring -- a degree -- a stage -- "-- dying -- ****** and ******here - " -- ** -- processing in which the input of the voice of the contents to say is required is possible. That is, the data recorded on the utterance directions data-logging section 205 can be made into such a thing.

[0055] 2nd operation gestalt:, next the 2nd operation gestalt of this invention are explained. In addition, it supposes that a common sign is used for the part which is common in the 1st operation gestalt by explanation of the 2nd operation gestalt, and duplication explanation is omitted. The game equipment 1 of this example is a game special-purpose-machine computer apparatus, and constitutes video game equipment 1 by being united with the record medium concerning this invention.

[0056] First, the body of game equipment for constituting the game system of this invention is explained with reference to drawing 13 . About this body of game equipment, what was indicated by JP,8-212377,A, for example can be used. The game system which can perform two or more kinds of games consists of these operation gestalten by read the game program and the data which were recorded on

freely exchangeable auxiliary record media, such as portability disks (CD-ROM, DVD-ROM, etc.) and a memory card, by the body of game equipment, and carry out collaboration activation of this with other program codes in the operating system (below Operating system:, and "OS") and the equipment of game program independence or the body of game equipment concerned.
[0057] The concrete example of a configuration of the body of game equipment is as being shown in drawing 13 . That is, the body 1 of game equipment is constituted including Maine Bath B for connecting the main control section 10, the image control section 20, the acoustical-treatment section 30, the disk control section 40, the communications control section 50, the input/output port section 60, and each part 10-60 of the above possible [two-way communication].
[0058] The main control section 10 comes to contain CPU (Central Proccessing Unit)11, the circumference device controller (D-CONT) 12 which performs interrupt control, DMA (Direct Memory Access) transfer control, etc., RAM (Randum Access Memory)13 for recording a game program and data temporarily, and ROM (Read Only Memory)14 in which OS which performs generalization-management thru/or control of each part of equipment was stored. CPU11 is RISC(reduced instruction setcomputor) CPU, and two or more functions mentioned later are realized based on the game program in OS and RAM13 which are recorded on ROM14 etc.
[0059] The geometry transfer engine 21 which performs coordinate transformation of the data from which the image control section 20 serves as a candidate for a display etc. at a high speed (GTE), The graphics processing unit 22 which performs drawing processing of the game image which consists of combination, such as a polygon and sprite (polygon of a triangle, a square, etc.), based on the drawing directions from CPU11 (GPU), It has the frame buffer (F-B) 23 which records temporarily the game image in which drawing processing was carried out by GPU22, and the image decoder (MDEC) 24 which performs decoding of image data if needed. It is decoded by the image decoder 24 by display unit DP, and the image data currently recorded on the frame buffer 23 is read and displayed on it. By performing continuously record to the above-mentioned drawing processing and the frame buffer 23 by GPU22, the game image containing an animation element can be displayed now on display unit DP.
[0060] The acoustical-treatment section 30 changes including the sound regeneration processor (SPU) 31 which performs sound playback based on sound data, and the sound buffer (S-B) 32 for recording the reproduced data temporarily. The data in this sound buffer 32 are outputted to Loudspeaker SP.
[0061] The disk control section 40 changes including the disk drive equipment (CD-ROM DRV) 42 for reproducing the contents of record of the music CD on which CD-ROM for games or music data was recorded so that CPU11 can be recognized (the reproduced data being hereafter called "playback data"), and the CD-ROM decoder (CD-ROM DEC) 41 which decrypts it when the error correction (ECC) sign is added to playback data. Before making disk drive equipment 41 record playback data on RAM13, to it, the buffer recorded temporarily is usually provided. In addition, the CD-ROM decoder 41 constitutes a part of acoustical-treatment section 30, and the thing about a sound is inputted into SPU31 among the outputs of this CD-ROM decoder 41.
[0062] The communications control section 50 is equipped with the device driver (D-DRV) 52 used as the interface of the exchangeable memory card MC and the communication link controller 51 used as an example of the communication link controller (COM CONT) 51 which performs communications control between CPUs11 through Maine Bath B, the game controller CN which receives the directions from a player, and the memory card equipment of this invention. The game controllers CN are the interface components for directing the intention of a player. The data directed through this game controller CN are transmitted to the communication link controller 51 by synchronous system communication link.
[0063] The communication link controller 51 transmits the directions data showing the contents of directions sent from the game controller CN to CPU11. Thereby, the intention of a player is told to CPU11 and CPU11 can perform now processing according to the intention of a player based on the game program currently performed. The communication link controller 51 also has the function which reads the data recorded as data logging to a memory card MC again based on the directions from CPU11. Since it dissociates from Maine Bath B, a memory card MC is in the condition which switched

on the power source, and can be detached and attached.
[0064] Each port of the parallel I/O (I/O) 61 and serial input/output (I/O) 62 incorporates the electronic data (musical piece data etc.) from each connected equipment while connecting the sound processor and external information processor which reproduce a musical piece and a musical instrument sound. That is, this invention can be carried out now not only using CD for games, and the music CD but using the data from an external device.
[0065] Next, a memory card MC is explained. A memory card MC is inserted in the card insertion section prepared in the slot which the body 1 of game equipment does not illustrate, and is used as a data-logging means of the proper corresponding to each of two or more game controllers CN. For example, when two persons' player performs a game, each one of game activation results etc. can be recorded on two memory cards MC, respectively. In addition, it is indicated by JP,11-7504,A about the appearance configuration of a memory card MC, and the wearing device to the card insertion section.
[0066] If powering on or reset processing is performed in the body 1 of game equipment of the above-mentioned configuration where disk drive equipment 42 is equipped with CD-ROM44, CPU11 controls the disk control section 40, will read the game program currently recorded on CD-ROM (CD) to main memory 13, and will perform it while performing OS memorized by ROM14 and initializing the whole equipment, such as a check of operation. By this game program execution, CPU11 forms functional block as shown in drawing 14 , and realizes the video game equipment of this invention.
[0067] This video game equipment 1 has the same functional block as the 1st operation gestalt and abbreviation in the interior. That is, video game equipment comes to contain the directions information analysis section 201, the game control section 202, the main image data-logging section 203, the main image data generation section 204, the utterance directions data-logging section 205, the utterance directions data generation section 206, the image control section 207, the image data generation section 208 for selection, the selection image data generation section 209, the output sound data generation section 210, and the output sound control section 211. In the directions information decode section 201 of the video game equipment 1 of the 2nd operation gestalt, it differs from the 1st operation gestalt in that there is no input from coin management equipment 111. There is no input from coin management equipment 111 in the directions information decode section 201 of this video game equipment 1, because this video game equipment does not have the coin slot 108 like the 1st operation gestalt, and coin management equipment 111.
[0068] This video game equipment 1 has the same function as the game equipment of the 1st operation gestalt except for the above-mentioned point, and can perform the same photography game as the game equipment of the 1st operation gestalt.
[0069] In addition, the controller CN of this video game equipment 1 is the controller generally attached to video game equipment for home use. However, it can change into this controller CN and the controller CN constituted including the false camera made into the configuration which imitated the camera can be used. This controller CN can equip with and constitute the 2nd input means for inputting the 2nd information for determining a selection image as the 1st input means for inputting the 1st information for making the location of the selection image in the inside of the main image displayed on display unit DP, and the magnitude of said selection image change. This is [that the 1st input device should just be a thing equipped with the function to detect the relative position of the false camera for example, to display unit DP] realizable using a gyroscope, an acceleration sensor, etc. The 2nd input means is realizable by preparing the same shutter ** as the case of the 1st operation gestalt.
[0070]
[Effect of the Invention] According to the game equipment by this invention, the game equipment which can make false experience of the photography which does not have an example until now give a game person can be realized now so that clearly from the above explanation.

[Translation done.]

20/5,K/57 (Item 57 from file: 350) **Links**
Derwent WPIX

0009961830 *Drawing available*
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ENGLISH TRANSLATION ATTACHED

Image capture apparatus for video game apparatus, captures image selected by the player and displays it for set time period, with camera and display having different lines of sight from player

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Patent Family (2 patents, 1 countries)

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JP 2000069467	A	20000303	JP 1998254522	A	19980825	200023	B
JP 3519281	B2	20040412	JP 1998254522	A	19980825	200425	E

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Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
JP 2000069467	A	JA	15	15		
JP 3519281	B2	JA	14		Previously issued patent	JP 2000069467

Alerting Abstract JP A

NOVELTY - The display (310) and the camera (320), are provided such that respective lines of sight (330,340) from the player (300) is different. A particular image for display is selected, based on which, the image is **captured** and displayed for predetermined time period.
DESCRIPTION - An INDEPENDENT CLAIM is also included for the program for image **capture**.
USE - For **video game** apparatus e.g. for racing game.
ADVANTAGE - The hardware need not be modified to receive the player image. The **still picture** image of the player is displayed as per the selection.
DESCRIPTION OF DRAWINGS - The figure shows the configuration of the camera and the display.
300 Player
310 Display
320 Camera
330,340 Lines of sight

Title Terms /Index Terms/Additional Words: IMAGE; **CAPTURE**; APPARATUS; VIDEO; GAME; SELECT; PLAY; DISPLAY; SET; TIME; PERIOD; CAMERA; LINE; SIGHT

Class Codes

International Patent Classification

IPC	Class	Scope	Position	Status	Version Date

	Level				
H04N-007/18			Main		"Version 7"
A63F-013/00; **A63F-013/02**; G06T-001/00			Secondary		"Version 7

File Segment: EngPI; EPI;
DWPI Class: T01; W02; W04; P36
Manual Codes (EPI/S-X): **T01-J10**; W02-F01; **W04-X02C**

Image capture apparatus for video game apparatus, captures image selected by the player and displays it for set time period, with camera and display having different lines of sight from player Original Titles:PICTURE TAKE-IN DEVICE AND INFORMATION **STORAGE** MEDIUM **Alerting Abstract** ...respective lines of sight (330,340) from the player (300) is different. A particular image for display is selected, based on which, the image is **captured** and displayed for predetermined time period. DESCRIPTION - An INDEPENDENT CLAIM is also included for the program for image **capture**. ... ...USE - For **video game** apparatus e.g. for racing game... ...ADVANTAGE - The hardware need not be modified to receive the player image. The **still picture** image of the player is displayed as per the selection **Title Terms** .../Index Terms/Additional Words: **CAPTURE**; **Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **H04N-007/18** Main **A63F-013/00**... ...**A63F-013/02** Manual Codes (EPI/S-X): **T01-J10**... ...**W04-X02C**... ...

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G06T 1/00			B	5C054
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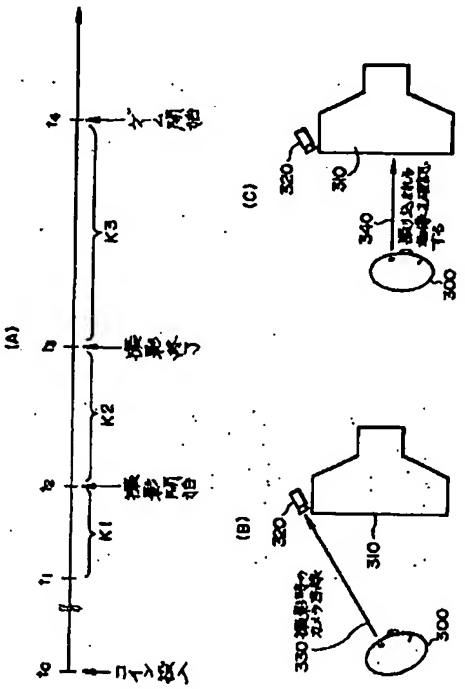
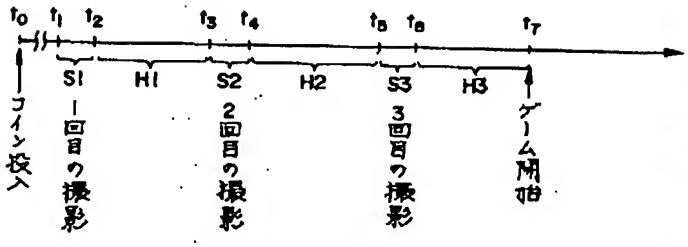
最終頁に続く

(54)【発明の名称】　画像取り込み装置及び情報記憶媒体

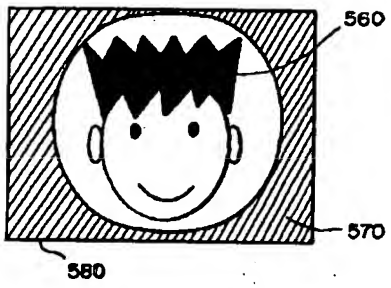
(57)【要約】
【課題】　ハードウエア的な変更を伴わずに、カメラ目線のプレーヤ画像を取り込むことができる画像取り込み装置及び情報記憶媒体を提供すること。
【解決手段】　本画像取り込み装置は、プレーヤからの目線が異なるように配置された撮影用カメラ３２０と表示部３１０を含む。取り込み用に撮影されたプレーヤの画像を撮影時から所与の時間遅延させて選択用画像として表示部に出力し、プレーヤが取り込みを所望する画像の選択入力を受け付ける。このためプレーヤは撮影期間中はディスプレイ上の表示に気をとられずに済み、カメラ目線の良好な画像を撮影することができる。前記選択用画像はプレーヤの静止画像をマトリクス表示することが好ましい。また所定の間隔をおいて複数回プレーヤの画像を撮影し、撮影の合間に、プレーヤ画像の選択期間を設けるような構成にしてもよい。



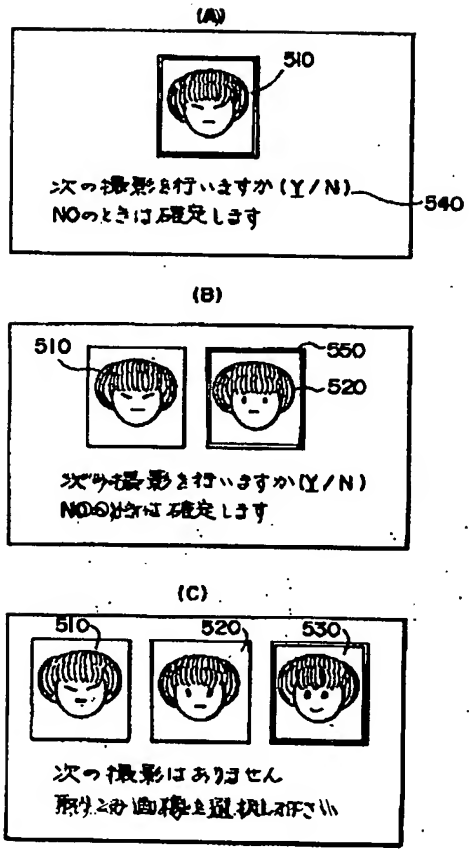
【図8】


t0
t1
t2
t3
t4
t5
t6
tT
S1
H1
S2
H2
S3
H3
コイン投入
1回目の撮影
2回目の撮影
3回目の撮影
ゲーム開始

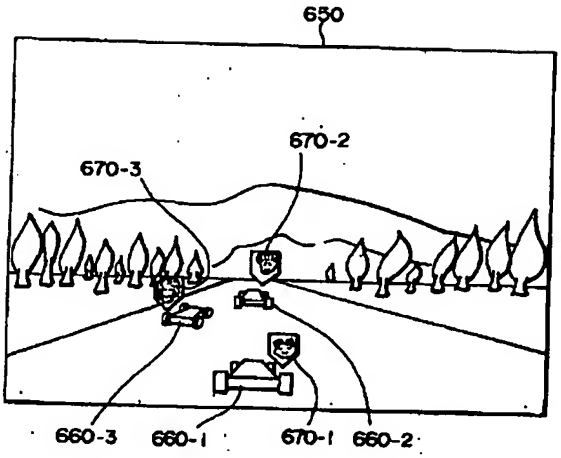
【図10】


560
570
580

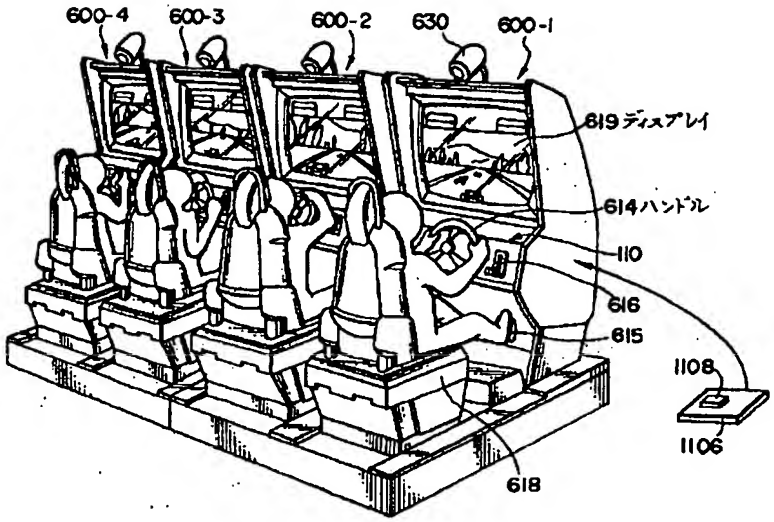
【図9】


(A)
510
次の撮影を行いますか(Y/N)
NOのときは確定します
540
(B)
510
550
520
次の撮影を行いますか(Y/N)
NOのときは確定します
(C)
510
520
530
次の撮影はありません
写真を選択してください

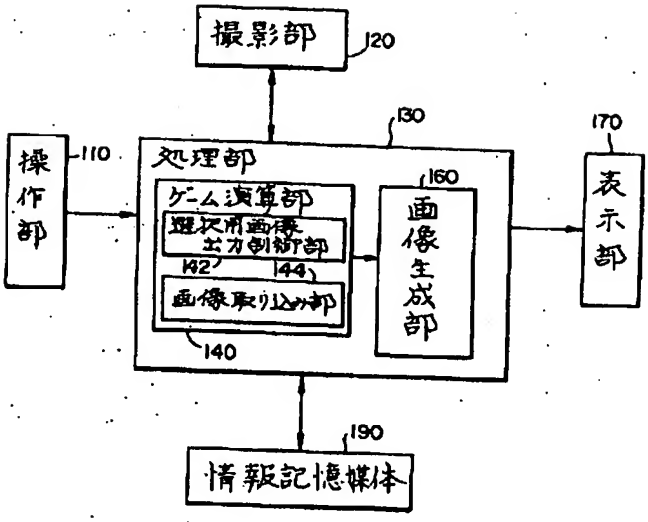
【図12】


650
670-2
670-3
660-3
660-1
670-1
660-2

【図11】


600-4
600-3
600-2
630
600-1
619ディスプレイ
614ハンドル
110
616
615
1108
1106
618

【図13】


撮影部
120
130
170
操作部
110
処理部
ゲーム演算部
選択用画像出力制御部
142
144
画像取り込み部
140
160
画像生成部
表示部
190
情報記憶媒体

* NOTICES *

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2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] As the eye line over the camera for photography of a player differs from the eye line over a display including the camera for photography, and a display, they are a camera for photography, and image incorporation equipment with which the display is arranged. A player image photography means to incorporate using said camera for photography and to photo the image of the target player, An image output means for selection to output the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player used as said incorporation object to a display, An image incorporation means to determine an incorporation image based on the selection input of said image for selection, and a player, and to capture the image of the photoed player, An image-processing means to perform a given image processing using said incorporation image is included. Said image output means for selection Image incorporation equipment characterized by the given thing [carrying out time delay and outputting said image for selection to a display] from the time of photography of the player image used as an incorporation object so that said camera for photography can photo the player image of a camera eye line.
[Claim 2] Image incorporation equipment with which said player image photography means photos the dynamic image of a player, said image output means for selection outputs the dynamic image of the photoed player to a display as an image for selection in claim 1, and said image incorporation means is characterized by to determine an incorporation image based on the image currently displayed on the display to the timing of said selection input.
[Claim 3] The image incorporation equipment with which said player image photography means photos the dynamic image of a player, said image output means for selection outputs two or more static images extracted from the dynamic image of the photoed player to a display as an image for selection in claim 1, and said image incorporation means is characterized by to determine an incorporation image based on the static image chosen by the selection input of a player.
[Claim 4] Image incorporation equipment characterized by for said image output means for selection outputting to a display the image with which a list indication of said two or more static images was given as an image for selection in claim 3, and said image incorporation means determining an incorporation image based on the static image which the player out of said static image by which it was indicated by the list chose by the selection input.
[Claim 5] As the eye line over the camera for photography of a player differs from the eye line over a display including the camera for photography, and a display, they are a camera for photography, and image incorporation equipment with which the display is arranged. A player image photography means to photo the image of a player which sets predetermined spacing using said camera for photography, and serves as a multiple-times incorporation object, An image output means for selection to output the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player which serves as said incorporation object in the intervals of photography of said multiple times to a display, An image incorporation means to determine an incorporation image based on the selection input of said image for selection, and a player, and to capture the image of the

photoed player, An image-processing means to perform a given image processing using said incorporation image is included. Image incorporation equipment characterized by outputting to a display the image for selection with which said image output means for selection contains the static image based on the player image photoed this time until said player image photography means photos a next player image.

[Claim 6] Image incorporation equipment characterized by for said image output means for selection outputting to a display the image with which a list indication of said two or more static images was given as an image for selection in claim 5, and said image incorporation means determining an incorporation image based on the static image which the player out of said static image by which it was indicated by the list chose by the selection input.

[Claim 7] It is an information storage medium for capturing a player image with the camera for photography, and the image incorporation equipment with which the display is arranged so that the eye line over the camera for photography of a player may differ from the eye line over a display including the camera for photography, and a display. The information for incorporating using said camera for photography and photoing the image of the target player, The image print-out for selection for outputting the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player used as said incorporation object to a display, The information for determining an incorporation image based on the selection input of said image for selection, and a player, and capturing the image of the photoed player, Including the information for performing a given image processing using said incorporation image, said image print-out for selection so that said camera for photography can photo the player image of a camera eye line The information storage medium characterized by including the information for [given] carrying out time delay and outputting said image for selection to a display from the time of photography of the player image used as an incorporation object.

[Claim 8] It is an information storage medium for capturing a player image with the camera for photography, and the image incorporation equipment with which the display is arranged so that the eye line over the camera for photography of a player may differ from the eye line over a display including the camera for photography, and a display. The information for photoing the image of a player which sets predetermined spacing using said camera for photography, and serves as a multiple-times incorporation object, The image print-out for selection for outputting the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player which serves as said incorporation object in the intervals of each photography of said multiple times to a display, The information for determining an incorporation image based on the selection input of said image for selection, and a player, and capturing the image of the photoed player, The information for performing a given image processing using said incorporation image is included. The information storage medium characterized by including the information for outputting to a display the image for selection with which said image print-out for selection contains the static image based on the player image photoed this time until it photos a next player image.

[Translation done.]

* NOTICES *

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to image incorporation equipment and an information storage medium.
[0002]
Background Art and Problem(s) to be Solved by the Invention] Conventionally, the face of a player etc. is photoed and the video game equipment which generates the game screen which captured the photoed image is known. For example, the image display of the face of the player to which two or more players accompany and correspond to the player car on a screen in the racing game which holds communication link waging war is performed.
[0003] Such game equipment has the CCD camera 320 grade for capturing the image of a player above a display, as shown in drawing 1 . If a player throws in coin, in advance of a game, the explanation screen for face image incorporation will be displayed on a display 310, and a player turns to CCD camera 320 according to this explanation, and performs actuation for image incorporation.
[0004] And the image of the photoed player is displayed on a display 310, and seeing this display image, a player chooses a desired image and operates a decision carbon button etc. thus, the image of a player captured is determined and the game screen which used this captured player image after game initiation is displayed -- things -- **
[0005] However, if the image photoed with CCD camera 320 is expressed as real time on a display 310 in case a player is photoed, a player will let CCD camera 320 out of sight, and will look at a display 310. For this reason, the image the eye line 340 of a player has not turned [image] to the direction of a camera will be photoed. That is, as shown, for example in drawing 1 , when CCD camera 320 direction (camera eye line 330 at the time of photography) and display 310 direction (look 340 when checking the image captured) which were seen from the player 300 differ from each other, on a display, the image the eye line of a player has not turned [image] to the direction of a camera is displayed. For this reason, it incorporated checking the image of a camera eye line on a display, and there was a trouble that an image could not be determined. The image which is not such a camera eye line may become the factor which the player expected and in which it incorporates and this spoils the participating volition to a game in many cases unlike an image.
[0006] Arranging a display 370 and CCD camera 360 to same optical-axis top 380 using a half mirror 350 as a system for solving the starting problem and performing image incorporation of a camera eye line, as shown in drawing 2 is also considered. However, if a hardware--in this way change is made, while the whole equipment will be enlarged, there was a trouble that equipment will carry out a cost rise.

[0007] The place which it is made in order that this invention may solve the above technical problems, and is made into the purpose is to offer the image incorporation equipment and the information storage which can capture the player image of a camera eye line, without being accompanied by hardware-modification.

[0008]
[Means for Solving the Problem] As the eye line over the camera for photography of a player differs from the eye line over a display including the camera for photography, and a display, they are a camera for photography, and image incorporation equipment with which the display is arranged. A player image photography means to incorporate using said camera for photography and to photo the image of the target player, An image output means for selection to output the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player used as said incorporation object to a display, An image incorporation means to determine an incorporation image based on the selection input of said image for selection, and a player, and to capture the image of the photoed player, Including an image-processing means to perform a given image processing using said incorporation image, said image output means for selection so that said camera for photography can photo the player image of a camera eye line It is characterized by the given thing [carrying out time delay and outputting said image for selection to a display] from the time of photography of the player image used as an incorporation object.
[0009] As for the predetermined time delayed in here, it is desirable that it is exposure time at least.
[0010] Incorporation of an image means making an internal storage means etc. memorize, in order to use it for the given purpose, and image incorporation equipment performs a given image processing using an incorporation image.
[0011] According to this invention, the image for selection for choosing the image which wishes incorporation from the photoed player image is delayed from the time of photography, and it is made to display on a display. For this reason, the image output period for selection for a player incorporating and choosing an image after player image photography period termination, can be established. Therefore, it is not necessary to have mind taken by the display on a display during a photography period, and a player can photo the good image of a camera eye line during.
[0012] With the gestalt of this operation, such image incorporation is especially realizable by software. For this reason, the image incorporation equipment which can capture the image of the camera eye line of a player can be offered, without enlarging the whole equipment or causing the rise of hardware-cost.
[0013] Moreover, as for this invention, said player image photography means photos the dynamic image of a player, said image output means for selection outputs the dynamic image of the player photoed as an image for selection to a display, and said image incorporation means is characterized by determining an incorporation image based on the image currently displayed on the display to the timing of said selection input.
[0014] If the dynamic image of a player is photoed and it displays on real time as an image for selection, the display of the image for selection is also ended to photography termination and coincidence, and the time amount which a player checks and captures a photography image and chooses an image cannot be secured. However, according to this invention, the time amount which incorporates in a player image photography period and chooses an image can be established by delaying the photoed player image and making it display on a display.
[0015] For this reason, it is not necessary to have mind taken by the display on a display during a dynamic-image photography period, and a player can photo the good image of a camera eye line during. And the optimal incorporation image can be chosen, looking at the self dynamic image photoed after photography.
[0016] Moreover, it is characterized by this invention determining an incorporation image based on the static image with which said player image photography means photoed the dynamic image of a player, said image output means for selection outputted to the display two or more static images extracted from the dynamic image of the player photoed as an image for selection, and said image incorporation means was chosen by the selection input of a player.
[0017] According to this invention, a dynamic image performs photography of a player, but selection is performed based on what disassembled the dynamic image of a player into two or more static images. Therefore, since a player can choose the optimal thing out of a static image, the problem of choosing the image which is not an image which the player wished to have according to the delay of definite button

grabbing is solvable.
[0018] Moreover, as for this invention, said image output means for selection outputs to a display the image with which a list indication of said two or more static images was given as an image for selection, and said image incorporation means is characterized by determining an incorporation image based on the static image chosen by the selection input by the player out of said static image by which it was indicated by the list.
[0019] A list display is the case where the matrix display of the static image is carried out etc. If it does in this way, a player can choose the optimal image, comparing two or more images. Moreover, since the selection based on two or more images by 1 time is possible, the loss of the time amount by restarting and selection of multiple times can be prevented, and improvement in a turnover can be aimed at.
[0020] Moreover, this inventions are a camera for photography, and image incorporation equipment with which the display is arranged, as the eye line over the camera for photography of a player differs from the eye line over a display including the camera for photography, and a display. A player image photography means to photo the image of a player which sets predetermined spacing using said camera for photography, and serves as a multiple-times incorporation object, An image output means for selection to output the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player which serves as said incorporation object in the intervals of photography of said multiple times to a display, An image incorporation means to determine an incorporation image based on the selection input of said image for selection, and a player, and to capture the image of the photoed player, An image-processing means to perform a given image processing using said incorporation image is included. Said image output means for selection It is characterized by outputting the image for selection containing the static image based on the player image photoed this time to a display until said player image photography means photos a next player image.
[0021] In here, it is required for predetermined spacing to be spacing which is extent which can secure the time amount which can check the image with which the player was photoed after photography at least.
[0022] thus, predetermined spacing -- the image output period for selection for choosing the configuration which can choose by being and displaying the player image which carried out multiple-times photography as a between static image to the next photography, then the image with which a player wishes incorporation after player image photography period termination can be established. For this reason, it is not necessary to have mind taken by the display on a display during a photography period, and a player can photo the good image of a camera eye line during.
[0023] Especially, with the gestalt of this operation, since such image incorporation is realizable by software, the whole equipment can be made small and cheap.
[0024] Moreover, as for this invention, said image output means for selection outputs to a display the image with which a list indication of said two or more static images was given as an image for selection, and said image incorporation means is characterized by determining an incorporation image based on the static image chosen by the selection input by the player out of said static image by which it was indicated by the list.
[0025] A list display is the case where the matrix display of the static image is carried out etc. If it does in this way, an applicant can choose the optimal image, comparing two or more images. Moreover, since the selection based on two or more images by 1 time is possible, the loss of the time amount by restarting and selection of multiple times can be prevented, and improvement in a turnover can be aimed at.
[0026] Moreover, this invention is an information storage medium for capturing a player image with the camera for photography, and the image incorporation equipment with which the display is arranged so that the eye line over the camera for photography of a player may differ from the eye line over a display including the camera for photography, and a display. The information for incorporating using said camera for photography and photoing the image of the target player, The image print-out for selection for outputting the image for selection for performing the selection input of the image with which a

player wishes incorporation from the image of a player used as said incorporation object to a display, The information for determining an incorporation image based on the selection input of said image for selection, and a player, and capturing the image of the photoed player, Including the information for performing a given image processing using said incorporation image, said image print-out for selection so that said camera for photography can photo the player image of a camera eye line It is characterized by including the information for [given] carrying out time delay and outputting said image for selection to a display from the time of photography of the player image used as an incorporation object.
[0027] Moreover, this invention is an information storage medium for capturing a player image with the camera for photography, and the image incorporation equipment with which the display is arranged so that the eye line over the camera for photography of a player may differ from the eye line over a display including the camera for photography, and a display. The information for photoing the image of a player which sets predetermined spacing using said camera for photography, and serves as a multiple-times incorporation object, The image print-out for selection for outputting the image for selection for performing the selection input of the image with which a player wishes incorporation from the image of a player which serves as said incorporation object in the intervals of each photography of said multiple times to a display, The information for determining an incorporation image based on the selection input of said image for selection, and a player, and capturing the image of the photoed player, It is characterized by including the information for outputting the image for selection containing the static image based on the player image photoed this time to a display until said image print-out for selection photos a next player image including the information for performing a given image processing using said incorporation image.
[0028]
[Embodiment of the Invention] Hereafter, the gestalt of suitable operation of this invention is explained using a drawing.
[0029] (1) Gestalt drawing 3 [of the first operation] (A) - (C) is drawing for explaining the photography and selection of an incorporation image in the image incorporation equipment of the gestalt of this operation. Drawing 3 (A) expresses photography of the incorporation image in the image incorporation equipment of the gestalt of this operation, and the time sequence of selection, and drawing 3 (B) and (C) are drawings showing the eye line of the player at the time of photography of a player image, and a check, respectively.
[0030] If coin is first thrown in to the timing of t0, on a display, the message screen for player image photography as shown at drawing 4 (A) will be displayed at the player image photography period K1 of t1 to t2. If a player sees the direction of a camera according to this, photography of the dynamic image of a player will be performed at the player image photography period K2 (for example, about 3 seconds).
[0031] It is [in / here] desirable that perform a display to which the arrow-head mark of drawing 4 (A) and (B) blinks towards the direction (upper part) in which the camera is installed, and the eye line of a player guides in the direction of a camera automatically.
[0032] Photography of the face image of a player is performed during the player image photography period K2 using CCD camera 320 (refer to drawing 3 (B)). At this time, the image of the photoed player etc. is not displayed on a display, but the screen as shown in drawing 4 (B) is displayed. Therefore, without mind being taken by the image on a display, a player can double the camera eye line 330 in the direction of a CCD camera, as shown in drawing 3 (B). The face image of the photoed player is written in SRAM etc. Usually, K2 is set as about 3 seconds.
[0033] And termination of photography displays on a display the image photoed between the player image photography periods K2 at the image output period K3 for selection of t3 to t4. That is, the image photoed by the CCD camera will be displayed on a display in the condition that it was late for 3 seconds (player image photography period K2) at least. A player operates the definite carbon button which is not illustrated in order to capture the image at the time of thinking that he was pleased while looking at the photography image displayed on a display, as shown in drawing 3 (C) and to decide as an image.
[0034] Drawing 5 (A) and (B) are drawings having shown the example of a screen of the image for

selection. On the display between the image output periods K3 for selection, an image as shown in drawing 5 (A) is displayed. 410 is the dynamic image of the player photoed amongK2, and is the image photoed by the camera eye line in K2. A definite carbon button is operated at the moment of thinking that the dynamic image of a player displayed on 410 is the optimal as an incorporation image as shown in messages 420 and 440. In addition, 430 shows the residual time of image display.
[0035] When a definite carbon button is operated, it will decide as an incorporation image with which the image currently displayed on 410 to the timing is used for a game etc. On a display, as shown in drawing 5 (B), the definite image 450 is displayed, and it becomes game initiation after that.
[0036] Thus, the player image photography period K2 and the image output period K3 for selection are separable by delaying the photoed player image by player image exposure time at least, and displaying it on a display. For this reason, a player does not need to have mind taken during a photography period by the display on a display. Therefore, it can prevent being looked down by the photography image as a result of having photoed the eye line in the condition of having turned to the display, and the good image of a camera eye line can be photoed.
[0037] Especially, with the gestalt of this operation, since such image incorporation is realizable by software, the whole equipment can be made small and cheap.
[0038] In addition, after deciding an incorporation image within the period of K3 shown in drawing 3 (A), you may constitute so that an image as shown in drawing 6 may be displayed. That is, two or more kinds of settled player images which capture, process into an image and are displayed into a game are displayed as 460, 470, and 480, and you may make it make a desired image choose it as a player out of this. A player can choose by this the face image which disguised itself, for example, and a more interesting game can be realized.
[0039] Drawing 7 is drawing having shown the example of a screen of other images for selection.
[0040] Although it was explained taking the case of the case where it indicates by delay, with the gestalt of said operation, having used as the dynamic image the image captured at the image output period K2 for selection, you may make it a configuration which indicates by the matrix the dynamic image photoed as shown, for example in drawing 7 as the decomposition photographic strip 490-1,490-2 and --. And when a player moves cursor 500 to the photograph which asks for incorporation and pushes a definite carbon button etc., you may make it the business which incorporates the selected photograph.
[0041] Since a player can choose the optimal thing out of a static image if it does in this way, the problem of choosing the image which is not an image which the player wished to have according to the delay of definite button grabbing is solvable.
[0042] (2) With the gestalt of gestalt book implementation of the second operation, indicate the static image of the player of at least one sheet by the display from the player image photoed this time until it sets predetermined spacing, it photos the image of a multiple-times player and it photos a next player image.
[0043] The time sequence of image incorporation of the gestalt of this operation is shown in drawing 8 .
[0044] Moreover, drawing 9 (A), (B), and (C) are drawings having shown the example of a screen of the image for selection.
[0045] If coin is first thrown in to the timing of t0, 1st photography of a player image will be performed in the player image photography period S1 of t1 to t2, and 510 will be displayed on the image output period H1 for selection of t3 on a display from the static imaget2 of the player extracted from the player image photoed in the meantime as shown in drawing 9 (A). In addition, ****** [the number of them / the number of the static images extracted and displayed one, and / two or more]. When it is judged that 510 of drawing 9 (A) is sufficient as a player, the cursor of "whether to perform the next photography" is set to N, 510 incorporates a definite carbon button with a male, and it decides as an image.
[0046] When 510 is not pleasing, or when a player thinks that he wants to photo an image better next, it sets the cursor of "whether to perform the next photography" to Y, and 2nd photography of a player image is performed with a male in a definite carbon button in the player image photography period S2 of t3 to t4. And as shown in drawing 9 (B), 520 is displayed on the image output period H2 for selection of t5 on a display from the static imaget4 of the player extracted from the player image photoed in the

meantime. It is desirable to also display collectively the player image 510 photoed last time so that it might be shown in drawing 9 (B) at this time. It is because a player can choose the favorite one after comparing last time with this time. either -- cursor 550 is set as the image of the way included in mind, the cursor of "whether to perform the next photography" is set to N, the image (drawing 9 (B) 520) with which cursor 550 is set up with the male incorporates a definite carbon button, and it decides as an image.

[0047] When a player thinks that he wants to photo the case where neither 510 nor 520 is pleasing, and an image better, next, the cursor of "whether to perform the next photography" is set to Y, and photography of the last of a player image is performed with a male in a definite carbon button in the player image photography period S3 of t5 to t6. And as shown in drawing 9 (C), 530 is displayed on the image output period H3 for selection of t7 on a display from the static imaget6 of the player extracted from the player image photoed in the meantime. It is desirable to also display collectively the player images 510 and 520 made into the 1st time and the 2nd time so that it might be shown in drawing 9 (C) at this time. It is because a player can choose the most favorite image after comparing from the 1st time to the 3rd time.

[0048] thus, predetermined spacing -- the configuration which can choose by being and displaying the player image which carried out multiple-times photography as a between static image to the next photography, then the player image photography periods S1-S3 and the image output periods H1-H3 for selection are separable. For this reason, a player does not need to have mind taken during a photography period (S1-S3) by the display on a display. Therefore, it can prevent being looked down by the photography image as a result of having photoed the eye line in the state of display ******, and the good image of a camera eye line can be photoed.

[0049] Especially, with the gestalt of this operation, since such image incorporation is realizable by software, the whole equipment can be made small and cheap.

[0050] In addition, in order to catch the face image of a player at the front of a camera lens, it is desirable to check on a display the self image photoed with the camera in advance of photography of the image for incorporation at the time of photography, and to perform alignment of a face.

[0051] Drawing 10 is drawing having shown an example of technique which performs alignment of a face. The face 560 of the player photoed by the camera is displayed on the display 580. It is desirable to take a configuration which obscures the field 570 which is equivalent to the four corners of a display at this time. When the location of the face of a player has shifted from the transverse plane of a camera, a face is needed in a field 570, and the part fades and is displayed. Therefore, even if it does not especially display an alignment mark etc., a player can judge a gap of a location. And it will turn to the direction of a camera so that a face may be unconsciously displayed on the pin center,large location of a display, and it becomes possible to capture a better image.

[0052] Next, an example of the gestalt of operation in case said given processing performed using said lump image is generation of a game image is explained.

[0053] Drawing 11 is the external view of the case of game equipment 600-1,600-2 -- at the time of applying the image incorporation equipment of the gestalt of this operation to a drive game. Each game equipment is formed like the driver's seat of an actual racing car. And a player sits down on a sheet 618, and it performs the game which operates the handle 614 prepared in the control unit 110, an accelerator 615, a shift lever 616, a brake, etc., and operates a fictitious racing car, looking at the false three-dimension image (game screen) projected on the display 619. In addition, it connects mutually through data transmission Rhine, and the game equipment 600-1,600-2 and -- which plurality became independent of can perform the racing game which competes by two or more players.

[0054] CCD camera 630-1,630-2 for photography and -- are prepared in the upper part of the case of said game equipment. It is for photoing the incorporation image of the face of a player and generating a game image using the incorporation image concerned.

[0055] Drawing 12 is drawing having shown an example of the game screen 650 displayed on the display 619 of the game equipment 600-1 concerned. The scene in the virtual three-dimension space which is visible from the view of the virtual player located in the driver's seat of a player car is displayed

on the game screen 650 with reality. And incorporation image 670-1,670-2 -- of the face of the player corresponding to a side of each player car 660-1,660-2 -- is displayed. Therefore, as for the player which is performing the racing game which competes by two or more players, it is quite obvious which player is operating each player car on a screen, and it can grasp it. For this reason, a player has competition volition stimulated and can enjoy a more nearly exciting racing game.
[0056] An example of the functional block diagram of the image incorporation equipment of the gestalt of this operation is shown in drawing 13 .
[0057] A control unit 110 is for a player to input actuation data, and the handle 614, the accelerator 615, the shift lever 616, the brake, etc. are prepared here. In addition, it functions also as an input means for carrying out the selection input of the image with which a player asks for incorporation from the image of the player photoed in the photography section 120.
[0058] The processing section 130 performs processing which arranges a display object to object space, and processing which generates the image in the given view of this object space based on the above-mentioned actuation data, a given program, etc. The function of this processing section 130 is realizable with the hardware only for [IC] CPU of a CISC mold or a RISC mold, DSP, and image incorporation etc.
[0059] The information storage medium 190 memorizes a program and data. The function of this information storage medium 190 is realizable with hardware, such as CD-ROM, a game cassette, an IC card, MO, FD and DVD, memory, and a hard disk. The processing section 130 will perform various processings based on the program from this information storage medium 190, and data.
[0060] The processing section 130 contains the game operation part 140 and the image generation section 160. The game operation part 140 performs processing which searches for the locations and directions of a mobile, such as setting processing in game mode, advance processing of a game, and a player car, arrangement processing of the display object to object space, etc. here.
[0061] The photography section 120 photos the player image used as an incorporation object, and CCD camera 330-1,330-2 of drawing 2 and -- perform the processing. The photoed image is written in SRAM which is not illustrated.
[0062] The image generation section 160 performs processing which generates the game image in the given view in the object space set up by the game operation part 140. And the image written in said SRAM etc. is texture-ized, it outputs to a display 170 or the image (refer to drawing 12) which compounded said texture-ized image and game image is generated.
[0063] A display 170 displays the image generated by the image generation section 160, and the display 619 of drawing 11 corresponds to this.
[0064] The game operation part 140 contains the image output-control section 142 for selection, and the image incorporation section 144.
[0065] The image output-control section 142 for selection performs control for outputting the image for selection for performing the selection input of the image with which he incorporates in the photography section 120, and a player wishes incorporation from the image of the target player to a display. It is controlling by the gestalt of this operation for given to carry out time delay from the time of photography of the player image used as an incorporation object, and to output said image for selection to a display to be able to photo the player image of a camera eye line with the camera for photography of said photography section 120. The image output-control section 142 for selection functions as an image output means for selection with said image generation section 160.
[0066] Said image incorporation section 144 performs processing written in SRAM which determines the incorporation image which was photoed in the photography section 120, and which is captured and is utilized as some game images based on an object image, and does not illustrate the incorporation image concerned based on the photoed image.
[0067] Next, an example of the configuration of the hardware which can realize the gestalt of this operation is explained using drawing 14 . With the equipment shown in this drawing, CPU1000, ROM1002, RAM1004, the information storage medium 1006, the sound generation IC 1008, the image generation IC 1010, and I/O Ports 1012 and 1014 are mutually connected by the system bus 1016

possible [data transmission and reception]. And a display 1018 is connected to said image generation IC 1010, a loudspeaker 1020 is connected to the sound generation IC 1008, a control apparatus 1022 is connected to I/O Port 1012, and the communication device 1024 is connected to I/O Port 1014.
[0068] Furthermore, IC1030 for image incorporation is connected to said system bus 1016, and CCD camera 30 is connected to this IC1030 for image incorporation.
[0069] Image data for the information storage medium 1006 to express a program and a display object, sound data, etc. are mainly stored. For example, with home video game equipment, CD-ROM, a game cassette, DVD, etc. are used as an information storage medium which stores a game program etc. Moreover, with business-use game equipment, memory, such as ROM, is used and the information storage medium 1006 is set to ROM1002 in this case.
[0070] A control apparatus 1022 is equipment for inputting into the body of equipment the result of the decision which is equivalent to a game controller, a control panel, etc., and a player performs according to game advance.
[0071] According to the program stored in the information storage medium 1006, the system programs (initialization information on the body of equipment etc.) stored in ROM1002, the signal inputted by the control apparatus 1022, CPU1000 performs control of the whole equipment and various data processing. RAM1004 is a storage means used as a working area of this CPU1000 etc., and the given contents of the information storage medium 1006 or ROM1002 or the result of an operation of CPU1000 is stored. Moreover, the DS (for example, structure of object data) with the logical configuration for realizing this operation gestalt will be built on this RAM or an information storage medium.
[0072] Furthermore, the sound generation IC 1008 and the image generation IC 1010 are formed in this kind of equipment, and the suitable output of a game sound or a game image can be performed now. The sound generation IC 1008 is an integrated circuit which generates game sounds, such as a sound effect and background music, based on the information memorized by the information storage medium 1006 and ROM1002, and the generated game sound is outputted by the loudspeaker 1020. Moreover, the image generation IC 1010 is an integrated circuit which generates the pixel information for outputting to a display 1018 based on the image information sent from RAM1004, ROM1002, and information storage medium 1006 grade. In addition, as a display 1018, what is called the so-called head mount display (HMD) can also be used.
[0073] Moreover, a communication device 1024 exchanges with the exterior various kinds of information used inside game equipment, and is connected with other game equipments, and the given information according to a game program is sent and received, or it is used for sending and receiving information, such as a game program, through a communication line etc.
[0074] And various processings in which it explained by drawing 1 - drawing 13 are realized by the information storage 1006 which stored a program and data, CPU1000 which operates according to this program, the image generation IC 1010, the sound generation IC 1008, and IC1030 grade for image incorporation. In addition, CPU1000 or general-purpose DSP may perform by software processing performed in the image generation IC 1010, the sound generation IC 1008, and IC1030 grade for image incorporation.
[0075] Now, drawing 11 mentioned above shows the example at the time of applying this operation gestalt to business-use game equipment. In this case, CPU, the image generation IC, the sound generation IC, and IC1030 grade for image incorporation are mounted in the system substrate 1106 built in equipment. The game information for performing the game with which two or more mobiles vie in ranking on the course displayed on a game screen in the memory 1108 which is an information storage medium on the system substrate 1106 is memorized. This game information includes the information for capturing the image of the player photoed based on the selection input of the information for [given] carrying out time delay and outputting to a display, and the player image and player which were outputted to the display in the image of the player picturized with the image pick-up means.
[0076] Such information hereafter stored in memory 1108 as mentioned above is called storing information. Such storing information contains at least one, such as the program code for performing the above-mentioned various processings, image information, sound information, configuration information

on a display object, table data, list data, and player information.
[0077] The example at the time of applying this operation gestalt to game equipment for home use at drawing 15 (A) is shown. The face of a player is incorporated with a camera 1230, and looking at the game image projected on the display 1200, a player operates the game controllers 1202 and 1204 and enjoys a game. In this case, the above-mentioned storing information is stored in CD-ROM1206 which is the information storage medium which can be freely detached and attached to the main frame, IC card 1208, and 1209 grades.
[0078] The example at the time of applying this operation gestalt is shown in the game equipment containing the terminal 1304-1 connected with host equipment 1300 and this host equipment 1300 through a communication line 1302 at drawing 15 (B) - 1304-n. In this case, the above-mentioned storing information is stored in the information storage media 1306, such as a magnetic disk drive with controllable host equipment 1300, a magnetic tape unit, and memory. A terminal 1304-1 - 1304-n have CPU, the image generation IC, the sound generation IC, a camera, and IC for image incorporation, and when it is what can generate a game image and a game sound by the stand-alone, from host equipment 1300, the game program for generating a game image and a game sound etc. is delivered by a terminal 1304-1 - 1304-n. On the other hand, when ungenerable by the stand-alone, a game image and a game sound are generated, and host equipment 1300 will transmit this to a terminal 1304-1 - 1304-n, and will output in a terminal.
[0079] In addition, what [not only] was explained with the gestalt of the above-mentioned implementation but various deformation implementation is possible for this invention.
[0080] For example, the image of a player to capture may not be restricted only to a face, but a full-length portrait is sufficient as it, and a full-length portrait is sufficient also as the image displayed on a game screen.
[0081] Moreover, the technique of the image incorporation which the technique of image incorporation is not restricted to the example explained with the gestalt of this operation, either, for example, starts these people's Japanese Patent Application No. 9-249534 etc. may be used.
[0082] Moreover, although the gestalt of said operation explained this invention taking the case of the case where it applies to a racing game, this invention is applicable to various games, simulation equipment, etc. not only this but other than this. For example, it is applicable also to the drive simulator used in a car driving school. In this case, what is necessary is just to perform processing in which stick an instructor's photograph of his face on the vehicle on which the instructor got using the captured image, and a student's photograph of his face is stuck on the vehicle which the student rode in.
[0083] Moreover, for example, with the gestalt of said operation, although explained taking the case of the case where the multi-player game of this invention is performed, this invention may be applied, when not only this but each game equipment 10 performs a single handicap player game.
[0084] Moreover, this invention is applicable not only to home use and business-use game equipment but various image generation equipments, such as a game substrate which generates a simulator, the large-sized attraction equipment with which many players participate, a personal computer, a multi-player game terminal, and a game screen.
[0085]

[Translation done.]

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Set     Items    Postings   Description
S1       1887        4600   S SCREENSHOT? OR SCREEN()(SHOT? OR DUMP? OR IMAGE?) OR
SCREENDUMP? OR STILLSCREEN?
S2       3073        9524   S SCREENIMAG? OR STILL()(SCREEN? OR PIC OR SHOT? OR PICS OR
PICTUR?) OR STILLSHOT? OR STILL()SHOT? OR SNAGIT OR SNAG()IT
S3      24258       35453   S FREEZE()FRAME? OR FREEZEFRAME? OR SNAPSHOT? OR SNAP()SHOT?
S4      50941      167254   S (VIDEO OR INTERNET OR ONLINE OR ELECTRONIC OR ETHERNET OR
COMPUTER?)(2N)(GAME? OR GAMING OR TOURNAMENT? OR COMPETITION?) OR VIDEOGAM? OR
COMPUTERGAM?
S5       2604        5630   S (EXTRANET? OR LAN OR LANS OR WAN OR WANS OR VPN OR WEB OR
CYBER)(2N)(GAME? OR GAMING OR TOURNAMENT? OR COMPETITION?) OR ONLINEGAM?
S6        139         499   S ELECTRONICGAME? OR CYBERGAME? OR ONLINEGAME? OR
MMOG?(5N)(MULTIMEDIA? OR MULTI()MEDIA OR ONLINE OR GAME? OR GAMING)
S7         48         300   S S1:S3 AND S4:S6
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09218522
Game console gets data broadcasts

JAPAN: DATA BROADCAST THROUGH GAME CONSOLE SOON
The Nikkei Weekly (NW) 27 Dec & 3 January 1999
Language: ENGLISH

Starting from middle of 2000, data broadcasts including captions and **still pictures** along with television programmes can be received by the Dreamcast game console from Sega Enterprises Ltd of Japan by using a special adapter. Cost of the adapter will be cheaper than Y 10,000 to Y 20,000 of tuners. Price for the system, which is under field testing, has yet to be set.

Company: SEGA ENTERPRISES

Product: Computers & Auxiliary Equip (3573); Communications Eqp ex Tel (3662); **Electronic Games** (3651EG);

Event: Product Design & Development (33);
Country: Japan (9JPN);

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